

EZ / EV SERIES

TECHNICAL MANUAL

REVISION 1.1

DECEMBER 2007

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RISO Digital Duplicator

EZ2 Series

EZ3 Series

EZ5 Series

EV2 Series

EV3 Serie

EV5 Series

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This technical manual includes information on six (6) machine models.

Some of the contents in the book apply only to certain machine models.

O, X or # marks are given under each machine model name in a box to identify which machine models the explanation in this book applies to.

The (O) mark indicates that the explanation given in the book applies to that machine model.

The (X) mark indicates that the explanation given in the book does not apply to that machine model.

The (#) mark indicates that the explanation given within the book applies to that machine model with certain conditions.

Example 1 :

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

When (O) mark is given under all the machine models, it means that the explanation given in the book applies to all the machine models indicated.

Example 2 :

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	O	O	X	O	O

When (X) mark is given under certain machine models, it means that the explanation given in the book does not apply to those machine models with the (X) mark.

Example 3 :

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	O	O

No Paper feed pressure sensor on EZ2 & EV2.

When (#) mark is given under certain machine models, it means that the explanation given in the book apply to those machine models with the (#) mark with certain condition. In such cases, comments are given under the box.

CHAPTER 1: MAINTENANCE

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Preface

This manual provides Technical Service Information for the digital duplicator Model EZ/EV series.

This manual provides procedures for removing and installing major components. Following these procedures will minimize machine malfunctions. This information and format will also increase technical representatives' awareness and experience regarding repairs necessary to insure end-user satisfaction.

CAUTION**[Handling of Lithium Battery]**

Never fail to follow the following instructions when you discard the used lithium battery.

1. Never let the battery short-circuited.

If the (+) and (-) terminals contact each other or metal materials, the battery will be short-circuited. If the batteries are collected and stored in disorderly or one upon another, the above-mentioned case will occur.

- DANGER -

If the battery is short-circuited, it will heat up and may in some cases explode into fire.

2. Never heat up the battery.

- DANGER -

If you heat the battery up to more than 100 degrees Celsius or put it into the fire, it may burn dangerously or explode.

3. Never disassemble the battery or press it into deformation.

- DANGER -

If you disassemble the battery, the gas pouring out of the inside may hurt your throat or the negative lithium may heat up into fire.

If the battery is pressed into deformation, the liquid inside may leak out of the sealed part or the battery may be short-circuited inside and explode.

4. Never fail to keep the battery out of reach of children.

If you put the battery within reach of children, they may swallow it down.

Should they swallow the battery, immediately consult the doctor.

[Replacement of the Lithium Battery]

1. The lithium battery must be replaced by a trained and authorized service technician.

2. The battery must be replaced only with the same or equivalent type recommended by the manufacturer.

3. Discard used batteries according to the manufacturer instructions.

Warning

!! WARNING !!

Important Safety Precautions

1. Always disconnect electrical supply before placing hands in the machine.

I. To avoid injuries:

Be sure to disconnect the electrical power before disassembling, assembling, or when making adjustments on the machine.

II. Protection of the machine:

Make sure to turn OFF the power to the machine before plugging or unplugging the electrical connectors, or when connecting a Meter.

2. Always connect electrical connectors firmly.

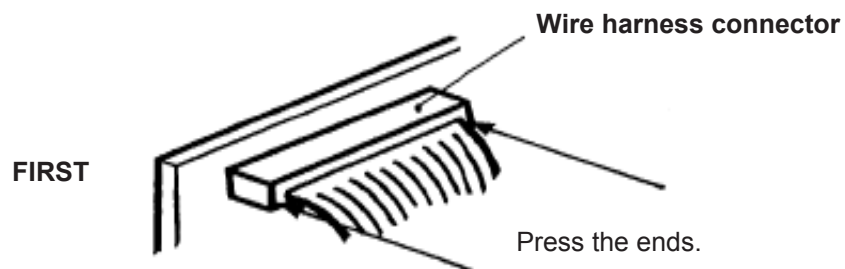
I. To avoid electrical failure:

The connectors must be connected firmly together and onto the PCBs.

Press on the ends of the connectors and then on the middle to ensure a firm fit.

II. Protection of the electrical components:

The electrical components may be damaged due to short circuits caused by a loose connector.



0101

1. Work Precautions

When conducting maintenance work, be careful to avoid injury caused by springs or the sharp edges of sheet metal.

Inspection

If you discover any defects or problems during an inspection, fix the problems or if necessary take steps such as replacing a part.

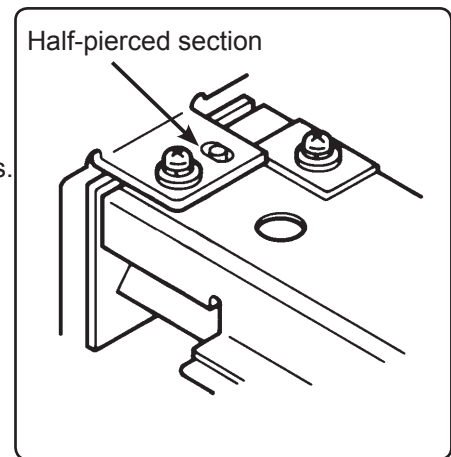
Removal

Check the problem area. At the same time, examine the cause of the problem and determine whether the part needs to be removed or disassembled. Next proceed according to the procedures presented in the Technical Manual. In cases where, for example, it is necessary to disassemble areas with large numbers of parts, parts which are similar to each other, or parts which are the same on the left and right, sort the parts so that you do not mix them up during reassembly.

- (1) Carefully sort the removed parts.
- (2) Distinguish between parts which are being replaced and those which will be reused.
- (3) When replacing screws, etc., be sure to use the specified sizes.

Assembly and Installation

Unless specified otherwise, perform the removal procedures in reverse during assembly and installation. In cases where protrusions or holes are provided to assist in positioning parts, use them for accurate positioning and securing.



(Protrusions and holes for positioning parts → Half pierced section)

0102

Tools

Using tools other than those specified can lead to injury or damage screws and parts. Have all the tools necessary for the work available.

[Standard Tool List]

Type	Tip size	Shaft length, etc.
Phillips screwdriver	No. 2	(250 mm)
	No. 2	(100 mm–150 mm)
	No. 2	(stubby type)
	No. 1	(75 mm–100 mm)
Standard screwdriver	6 mm	(100 mm–150 mm)
	3 mm	(100 mm–150 mm)
	1.8 mm	(precision type)
Nut driver (box driver)	8 mm	(100 mm–150 mm)
	7 mm	(100 mm–150 mm)
High frequency driver	2.5 mm	
Spanners	5 mm	5.5 mm 7 mm
	8 mm	10 mm 13 mm
		Monkey
Hex wrenches	5.0 mm	4.0 mm 3.0 mm
	2.5 mm	2.0 mm 1.5 mm
	(For 3.0mm, 2 pieces required)	

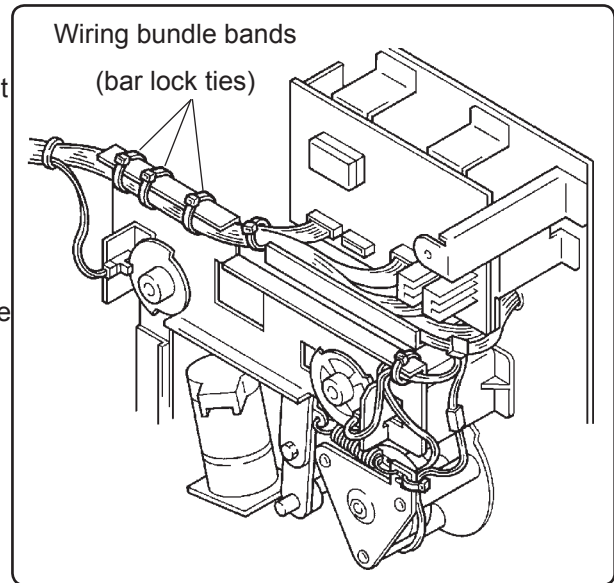
0103

Type	Remarks
Steel scale	150 mm
Feeler gauge	
Radial cutting pliers	
Pliers	
Nipper	
Small flashlight	
Multimeter	
Soldering iron	20 W–30 W
File	Flat, round

0104

Electrical system work

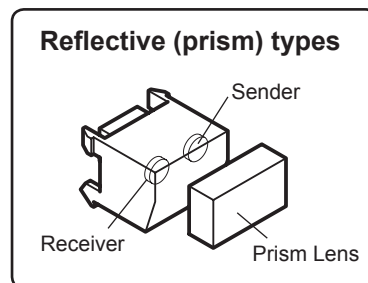
- > After removing wire bundles, fasten the wires with wire bundle bands (bar lock ties) during reinstallation so that they will not sag.
- > When installing parts, be careful to avoid pinching or damaging the wire bundles.
- > If a fuse blows, always replace it with one with the specified capacity.
- > Using a fuse with a larger capacity can not only damage parts, but may cause fires.
- > Be careful not to drop image scanners, thermal print heads, and other sensors as they can be easily damaged.



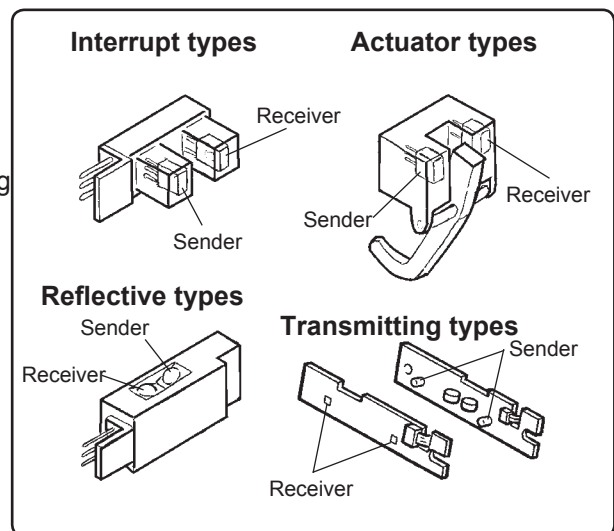
0105

Sensor types

- > Photoelectric sensors may be broadly divided into the following four types: interrupt types (U-shaped), actuator types, reflective types, and transmitting types.
- > Magnetic sensors use Hall ICs, which react to the magnetic force in magnets.
- > Always turn off the power before plugging or unplugging sensor connectors.



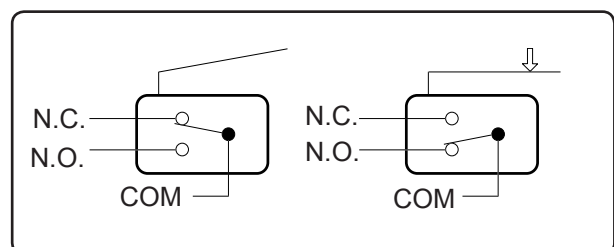
0106



0107

Switch types

- > Micro-switches may be divided between normally open (N.O.) types and normally closed (N.C.) types.
- > With an (N.O.) connection, an internal contact is connected when the switch actuator is pressed.
- > With an (N.C.) connection, an internal contact is disconnected when the switch actuator is pressed.

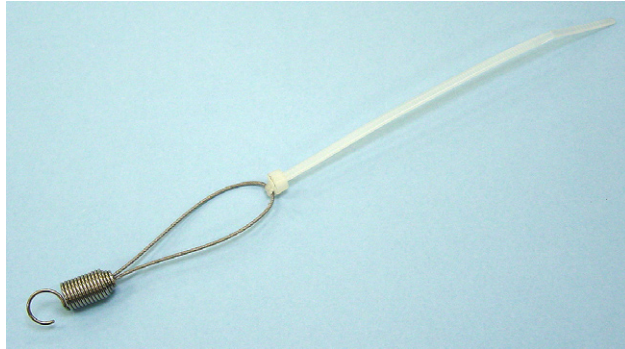


0108

Note

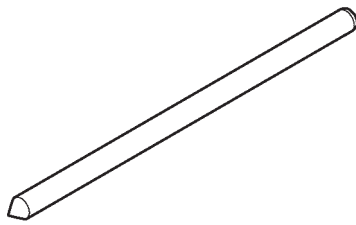
The machine is comprised of many gears. When inspecting or replacing parts, apply grease to the gears. If they are not properly greased, the gears may make abnormal sounds, and malfunctions or mechanical problems may occur.

2. JIGs



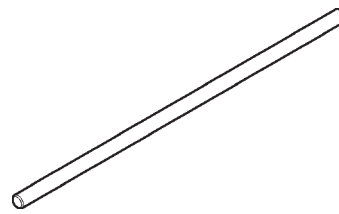
0109

021-16007-005 **Screen Spring** (2 pieces required)
Cut the ring end to make into hook, as shown on the photograph, and attach wire tie bar on the other end.



0110

Jig: 8mm (diameter) x 160mm (length)
016-16141-003
(2 pieces required)



0111

Jig: 4 mm (diameter) x 120 mm (length)
024-75064-006

3. Installation location

Do not install the machine in any of the following locations.

- (1) Those subject to direct sunlight or any bright location such as by a window (If you must install in such a location, put a curtain or the like over the window.).
- (2) Those where the temperature changes drastically.
- (3) Those that are too hot, cold, humid, or dry.

RECOMMENDED:

Temperature range: 15 degrees Celsius - 30 degrees Celsius

Humidity range: 40% - 70% No condensation allowed

- (4) Those with radiant heat sources and any locations in the direct path of air from air conditioners or heaters.
- (5) Any poorly ventilated location.
- (6) Dusty atmosphere.
- (7) Any tilted location.

(Installation height difference: 10 mm max. front to rear, 10 mm max. left to right).

Electrical connection

- > Plug the plug securely into the socket so that there is no problem with the contact in the power supply plug section.
- > Do not use any triplets or extension cords.
- > Do not allow any other machine to stand on or crush the power cord.

Ground connection

- > Always ground this machine to prevent electrical shock in case of an electrical leakage.

4. Exterior Cover Removal

Front cover

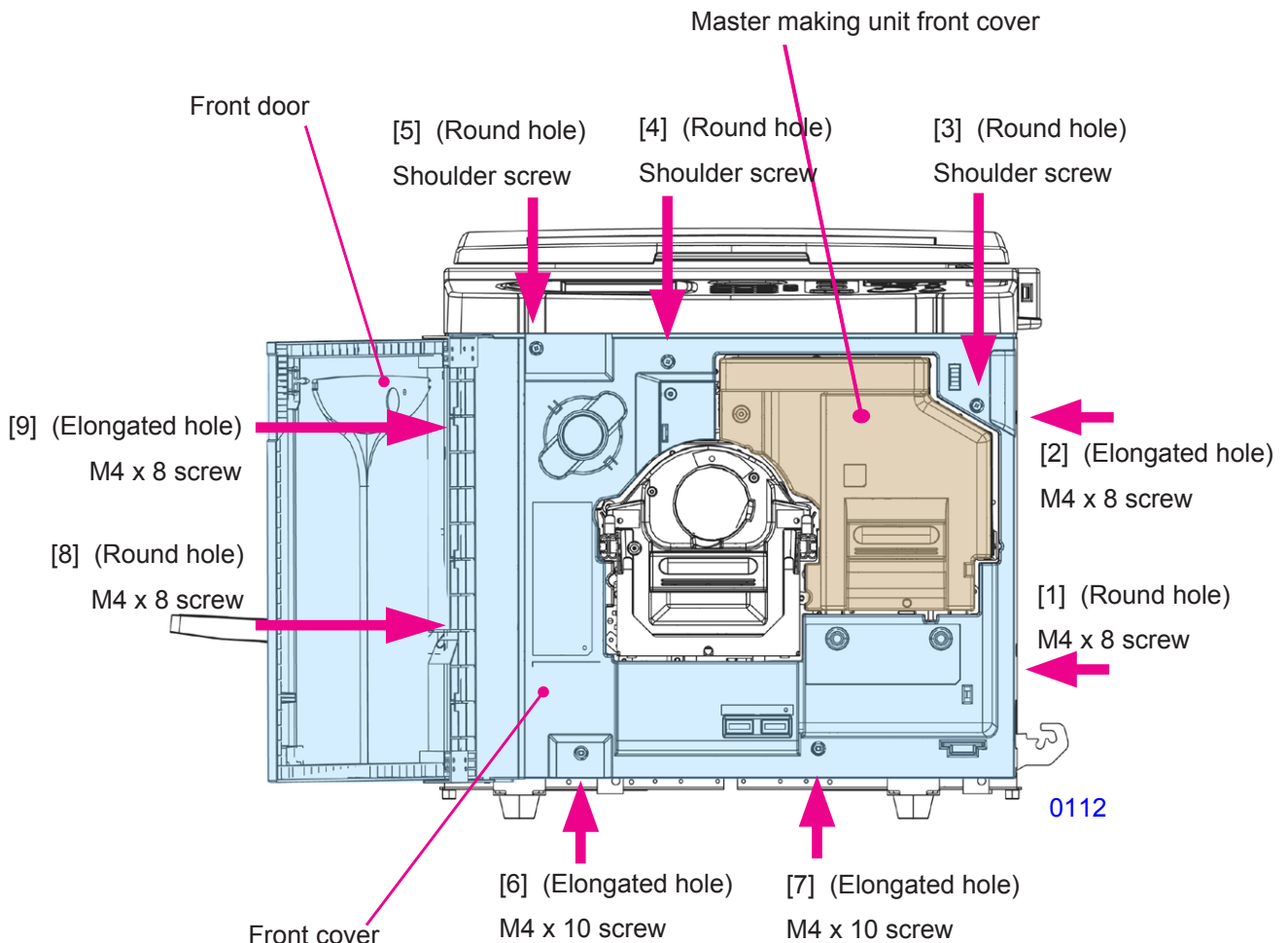
- (1) Remove the Front cover together with the Front door by removing screws (M4 x 8 screw; 4 pcs) (M4 x 10 screw; 2 pcs) (Shoulder screw; 3 pcs).

Caution in mounting the Front cover back on the machine:

Mount the screws in the order from [1] to [9], as indicated on the sketch below.

Master making unit front cover

- (1) With the machine power ON, press the green Release button to release the Master making unit and pull out the unit. Then turn OFF the machine power.
- (2) Remove screws (M4 x 8 screw; 4 pcs) from the Master making unit front cover and remove the cover.



Stage cover

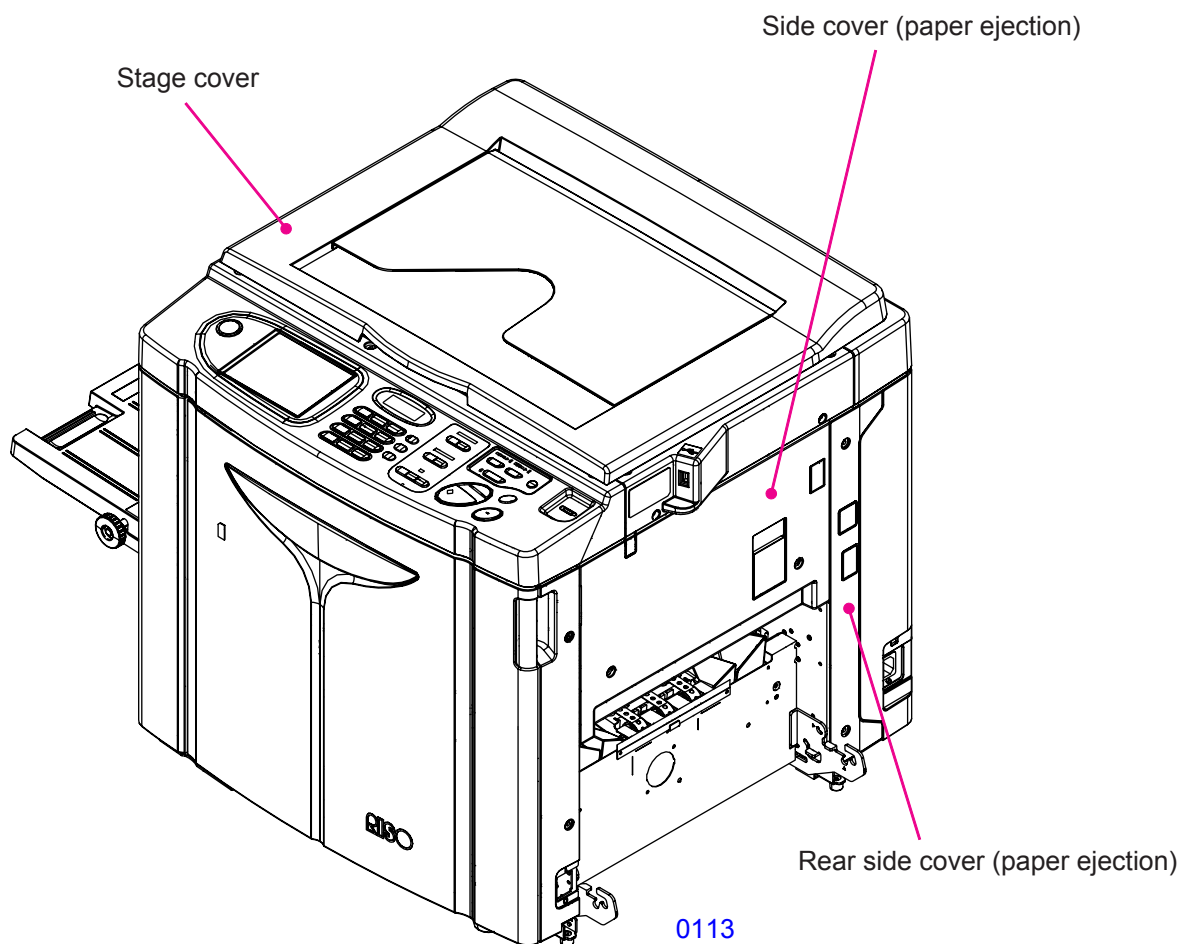
- (1) Open the Stage cover, remove a screw (M4 x 8 screw; 1 pc each) from each of the two hinges (right and left) of the Stage cover, and then attach these two screws in the screw holes behind. Lift the Stage cover off the machine.

Side cover (paper ejection)

- (1) Remove screws (M4 x 8 screw; 2 pcs), and remove the Side cover (paper ejection).

Rear side cover (paper ejection)

- (1) Remove the following covers.
 - Rear cover
 - Stage cover
 - Scanner cover (rear)
 - Scanner cover (paper ejection)
- (2) Remove screws (M4 x 8 screw; 2pcs), and remove the Rear side cover (paper ejection).



Rear cover

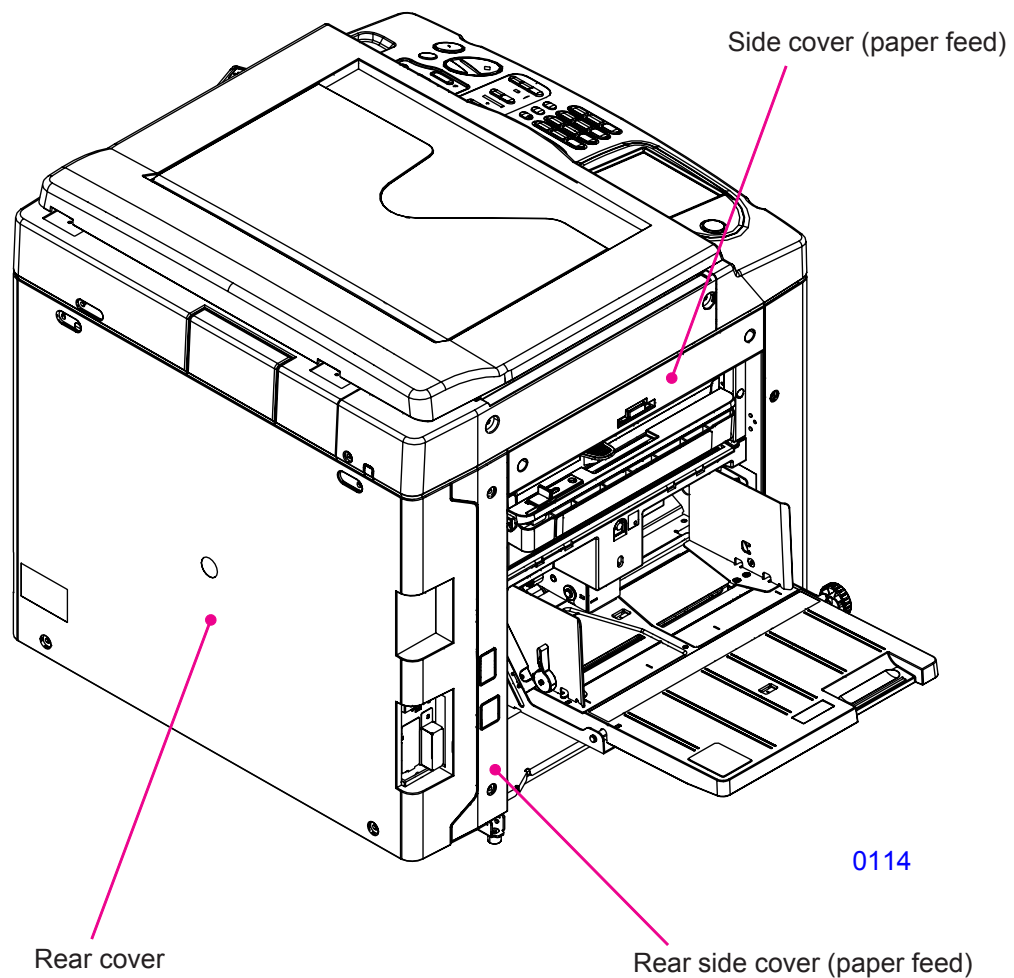
- Remove screws (M4 x 8 screw; 4 pcs), and remove the Rear cover.

Side cover (paper feed)

- Remove the Scanner cover (paper feed).
- Remove screws (M4x8 screw; 2 pcs), and remove the Side cover (paper feed).

Rear side cover (paper feed)

- (1) Remove the following covers.
 - Rear cover
 - Stage cover
 - Scanner cover (rear)
 - Scanner cover (paper feed)
- (2) Remove screws (M4 x 8 screw: 2 pcs), and remove the Rear side cover (paper feed).



Scanner cover (paper feed)

- Remove screws (M4 x 8 screw; 2 pcs), and remove the Scanner cover (paper feed).

Scanner cover (paper ejection)

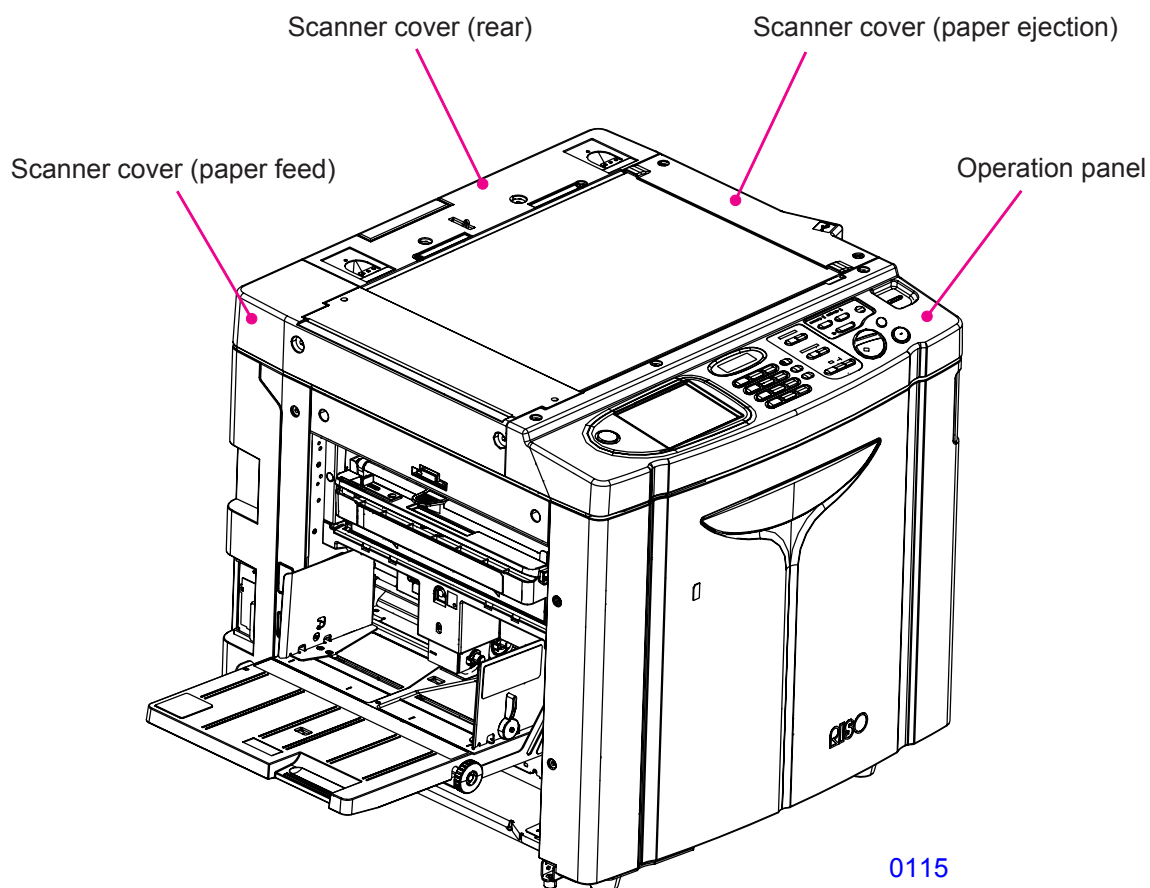
- Remove screws (M4 x 8 screw; 4 pcs), and remove the Scanner cover (paper ejection).

Scanner cover (rear)

- (1) Remove the Stage cover.
- (2) Remove screws (M4 x 8 screw; 3 pcs), and remove the Scanner cover (rear).

Operation panel

- (1) Remove screws (M4 x 8 screw; 3 pcs).
- (2) Slide the Operation panel to the front and then lifting it up, unplug the connector and remove the Operation panel from the machine.



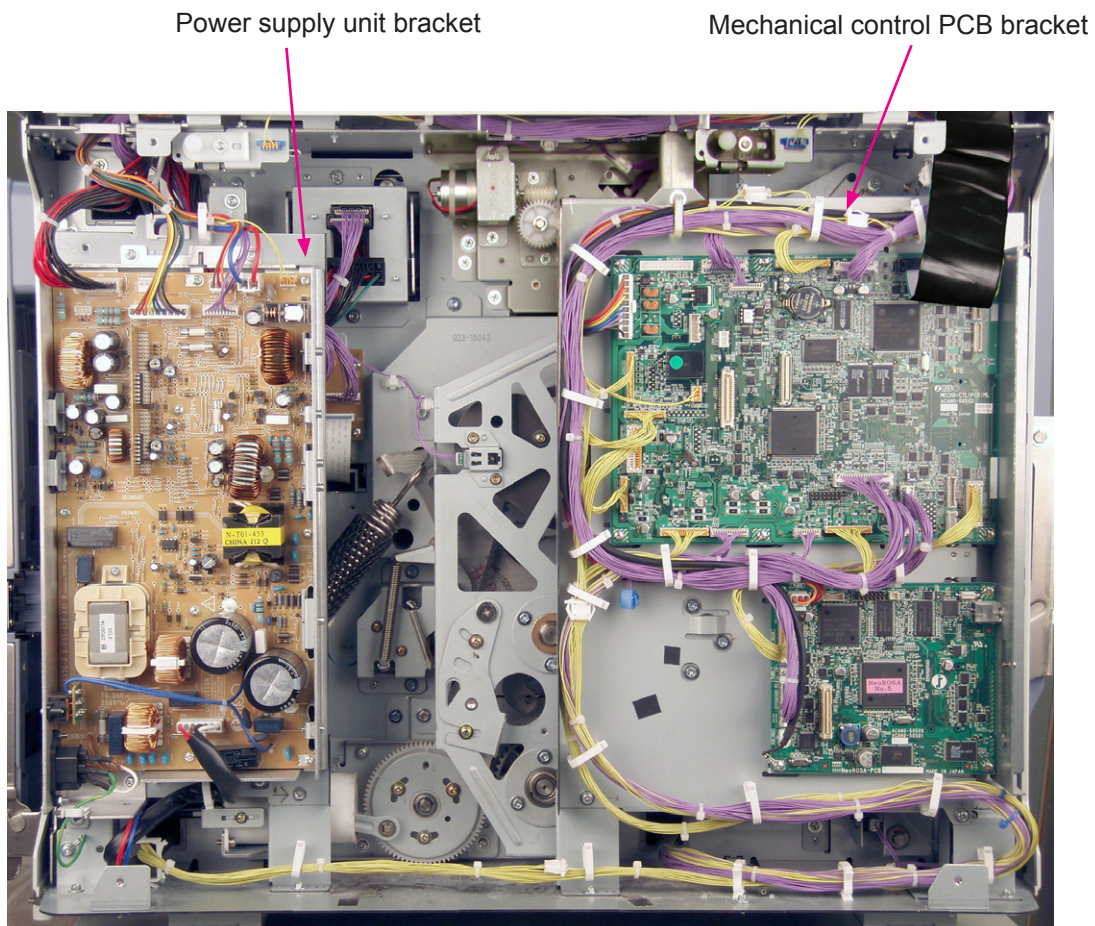
5. Opening the PCB Brackets

Mechanical Control PCB Bracket

- (1) Switch OFF the power, and remove the Rear cover.
- (2) Remove screws (M4 x 8 screw; 4 pcs) and slowly swing open the Mechanical control PCB bracket.

Power Supply Unit Bracket

- (1) Switch off the power, and remove the Rear cover.
- (2) Remove screws (M4 x 8 screw; 4 pcs) and slowly swing open the Power supply unit bracket.



0116

6. NOTICE Sheet

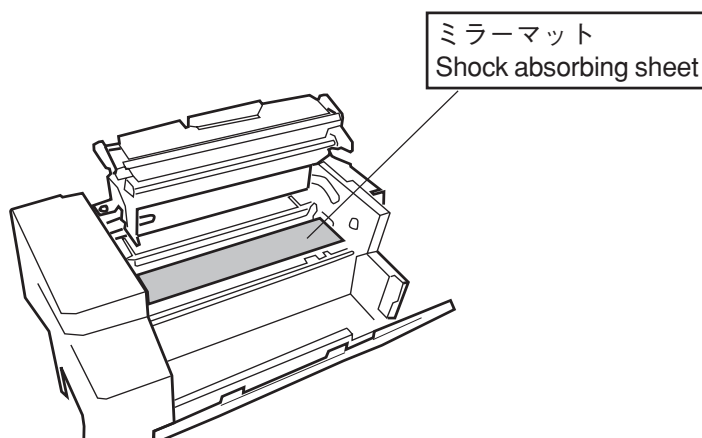
お願い／Notice

必ず下記の手順で設置準備を行ってください。

The following procedures are required when installing the printer.

1 製版ユニットを開け、ミラーマット（2枚）を取除く。

Open the Master loading unit and remove the Shock absorbing sheets.

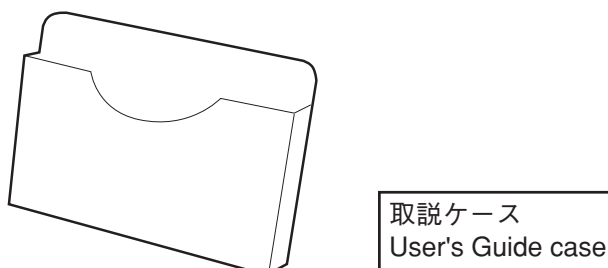


2 「取説ケース」を取り付ける。

どこに取り付けるか、お客様の意向を確認した上で、ケース裏面のテープで架台側面などに取り付けてください。

Attach the User's guide case to the printer.

Remove the adhesive cover sheet on the backside and affix the case on the printer. Be sure to consult your customer for the attachment position.



023-36060-004

CHAPTER 2: MACHINE SUMMARY

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1. Machine Specification

1) Optional Accessories for EZ200, EZ220, EZ230, EZ300, EZ330, EZ370 & EZ390.

Optional Accessories

A variety of optional accessories are available to enhance the capabilities of the machine.
For details about the optional accessories, see their respective user's manuals.

- **Color Drum (Cylinder)**

A variety of colors (colours) are available, such as blue, red, green, and brown. Store a drum (cylinder) in its own case.

- **Auto Document Feeder AF-VI:NII**

Feeds up to 50 sheets of originals automatically.

- **Job Separator IV:N**

With the Programed Printing function, allows the machine to print and sort into groups separated by tape.

- **Key Card Counter IV:N**

With a single button press, shows the numbers of printed copies and consumed masters within a given period of time. This can help you manage costs.

- **Card Feed Kit**

Use for thick paper such as cards. Replace with this unit when thick paper needs to pass through the machine.

- **Envelope Feed Kit**

Use for envelopes.

- **Ink/Master Holder**

A rack kit for storing supply such as ink and masters.

- **Stand**

- **RISO PC Interface Card USB2.0**

Use to connect a computer to the machine using a parallel cable.

- **RISO Network Card**

Use to directly connect the machine to the network.

This comes with the RISO-MONITOR software that allows you to check the status of the machine from computers.

0204

2) Specification: EZ200

RISO EZ200

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1\frac{31}{32}$ " × $3\frac{9}{16}$ ") - 297 mm × 420 mm ($11\frac{11}{16}$ " × $16\frac{17}{32}$ ") When using the ADF unit (option) : 100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22lb) or less When using the ADF unit (option) : 50g/m ² (14-lb bond) - 128g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Paper Supply Capacity	1000 sheets (64g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 157g/m ² (87-lb index)
Image Processing Mode	Line, Photo, Duo, Pencil
Master-making Time	Approx. 25 seconds (for A4/portrait/100% reproduction ratio)
Printing Area (max.)	210 mm × 290 mm ($8\frac{1}{4}$ " × $11\frac{7}{16}$ ")
Print Reproduction Ratio	Standard reproduction ratio (enlargement) : 141%, 122%, 116% Standard reproduction ratio (reduction) : 94%, 87%, 82%, 71%
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ± 15 mm ($\pm 1\frac{1}{2}$ ") Horizontal : ± 10 mm ($\pm \frac{3}{8}$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 295 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LED panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:NII, Job Separator IV:N, Key Card Counter IV:N, Color Drum (Cylinder), Card Feed Kit, Envelop Feed Kit, Ink/Master Holder, Stand, RISO Network Card, RISO PC Interface Card USB2.0
Power Source	EZ200E : 220-240V~, 1.3A, 50-60Hz EZ200A : 220-240V~, 1.3A, 50-60Hz
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54\frac{5}{16}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30\frac{17}{32}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H))
Weight	Approx. 100 kg (220lb)

Note:

- The specifications are subject to change without prior notice.

0205

3) Specification: EZ220**RISO EZ220**

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1\frac{31}{32}$ " × $3\frac{9}{16}$ ") - 280 mm × 432 mm (11" × 17") When using the ADF unit (option) : 100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22lb) or less When using the ADF unit (option) : 50g/m ² (14-lb bond) - 128g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Paper Supply Capacity	1000 sheets (64g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 157g/m ² (87-lb index)
Image Processing Mode	Line, Photo, Duo, Pencil
Master-making Time	Approx. 25 seconds (for A4/portrait/100% reproduction ratio)
Printing Area (max.)	216 mm × 280 mm ($8\frac{1}{2}$ " × 11")
Print Reproduction Ratio	Standard reproduction ratio (enlargement) : 154%, 129% Standard reproduction ratio (reduction) : 94%, 78%, 65%
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm\frac{1}{2}$ ") Horizontal : ±10 mm ($\pm\frac{3}{8}$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 250 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LED panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:NII, Job Separator IV:N, Key Card Counter IV:N, Color Drum (Cylinder), Card Feed Kit, Envelop Feed Kit, Ink/Master Holder, Stand, RISO Network Card, RISO PC Interface Card USB2.0
Power Source	EZ220U:100-120/220-240V~, 2.5/1.3A, 50-60Hz EZ220UG:100-120/220-240V~, 2.5/1.3A, 50-60Hz EZ220A:220-240V~, 1.3A, 50-60Hz
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54\frac{5}{16}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30\frac{17}{32}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H))
Weight	Approx. 100 kg (220lb)

Note:

- The specifications are subject to change without prior notice.

0206

4) Specification: EZ230

RISO EZ230

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1\frac{31}{32}$ " × $3\frac{9}{16}$ ") - 297 mm × 420 mm ($11\frac{11}{16}$ " × $16\frac{17}{32}$ ") When using the ADF unit (option) : 100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22lb) or less When using the ADF unit (option) : 50g/m ² (14-lb bond) - 128g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Paper Supply Capacity	1000 sheets (64g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 157g/m ² (87-lb index)
Image Processing Mode	Line, Photo, Duo, Pencil
Master-making Time	Approx. 25 seconds (for A4/portrait/100% reproduction ratio)
Printing Area (max.)	251 mm × 357 mm ($9\frac{7}{8}$ " × $14\frac{1}{16}$ ")
Print Reproduction Ratio	Standard reproduction ratio (enlargement) : 141%, 122%, 116% Standard reproduction ratio (reduction) : 94%, 87%, 82%, 71%
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm\frac{1}{2}$ ") Horizontal : ±10 mm ($\pm\frac{3}{8}$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 250 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LED panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:NII, Job Separator IV:N, Key Card Counter IV:N, Color Drum (Cylinder), Card Feed Kit, Envelop Feed Kit, Ink/Master Holder, Stand, RISO Network Card, RISO PC Interface Card USB2.0
Power Source	EZ230E:220-240V~, 1.3A, 50-60Hz EZ230U:220-240V~, 1.3A, 50-60Hz EZ230A:220-240V~, 1.3A, 50-60Hz EZ230AN:100-120/220-240V~, 2.5/1.3A, 50-60Hz
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54\frac{5}{16}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30\frac{17}{32}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H))
Weight	Approx. 100 kg (220lb)

Note:

- The specifications are subject to change without prior notice.

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5) Specification: EZ300**RISO EZ300**

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1^{31/32}$ " × $3^{9/16}$ ") - 297 mm × 420 mm ($11^{11/16}$ " × $16^{17/32}$ ") When using the ADF unit (option) : 100 mm × 148 mm ($3^{15/16}$ " × $5^{27/32}$ ") - 310 mm × 432 mm ($12^{3/16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22lb) or less When using the ADF unit (option) : 50g/m ² (14-lb bond) - 128g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3^{15/16}$ " × $5^{27/32}$ ") - 310 mm × 432 mm ($12^{3/16}$ " × 17")
Paper Supply Capacity	1000 sheets (64g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 210g/m ² (110-lb index)
Image Processing Mode	Line, Photo, Duo, Pencil
Master-making Time	Approx. 22 seconds (for A4/portrait/100% reproduction ratio)
Printing Area (max.)	210 mm × 290 mm ($8^{1/4}$ " × $11^{7/16}$ ")
Print Reproduction Ratio	Standard reproduction ratio (enlargement) : 141%, 122%, 116% Standard reproduction ratio (reduction) : 94%, 87%, 82%, 71%
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm 1/2$ ") Horizontal : ±10 mm ($\pm 3/8$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 295 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LED panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:NII, Job Separator IV:N, Key Card Counter IV:N, Color Drum (Cylinder), Card Feed Kit, Envelop Feed Kit, Ink/Master Holder, Stand, RISO Network Card, RISO PC Interface Card USB2.0
Power Source	EZ300E:100-120/220-240V~, 2.5/1.3A, 50-60Hz
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54^{5/16}$ "(W) × $25^{3/8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30^{17/32}$ "(W) × $25^{3/8}$ "(D) × 26"(H))
Weight	Approx. 101 kg (222lb)

Note:

- The specifications are subject to change without prior notice.

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6) Specification: EZ330

RISO EZ330

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1\frac{31}{32}$ " × $3\frac{9}{16}$ ") - 297 mm × 420 mm ($11\frac{11}{16}$ " × $16\frac{17}{32}$ ") When using the ADF unit (option) : 100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22lb) or less When using the ADF unit (option) : 50g/m ² (14-lb bond) - 128g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Paper Supply Capacity	1000 sheets (64g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 210g/m ² (110-lb index)
Image Processing Mode	Line, Photo, Duo, Pencil
Master-making Time	Approx. 20 seconds (for A4/portrait/100% reproduction ratio)
Printing Area (max.)	251 mm × 357 mm ($9\frac{7}{8}$ " × $14\frac{1}{16}$ ")
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 141%, 122%, 116% Standard reproduction ratio (reduction) : 94%, 87%, 82%, 71%
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm\frac{1}{2}$ ") Horizontal : ±10 mm ($\pm\frac{3}{8}$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 250 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LED panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:NII, Job Separator IV:N, Key Card Counter IV:N, Color Drum (Cylinder), Card Feed Kit, Envelop Feed Kit, Ink/Master Holder, Stand, RISO Network Card, RISO PC Interface Card USB2.0
Power Source	EZ330A:100-120/220-240V~, 2.5/1.3A, 50-60Hz
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54\frac{5}{16}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30\frac{17}{32}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H))
Weight	Approx. 101 kg (222lb)

Note:

- The specifications are subject to change without prior notice.

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7) Specification: EZ370**RISO EZ370**

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1^{31/32}$ " × $3^{9/16}$ ") - 297 mm × 420 mm ($11^{11/16}$ " × $16^{17/32}$ ") When using the ADF unit (option) : 100 mm × 148 mm ($3^{15/16}$ " × $5^{27/32}$ ") - 310 mm × 432 mm ($12^{3/16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22lb) or less When using the ADF unit (option) : 50g/m ² (14-lb bond) - 128g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3^{15/16}$ " × $5^{27/32}$ ") - 310 mm × 432 mm ($12^{3/16}$ " × 17")
Paper Supply Capacity	1000 sheets (64g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 210g/m ² (110-lb index)
Image Processing Mode	Line, Photo, Duo, Pencil
Master-making Time	Approx. 20 seconds (for A4/landscape/100% reproduction ratio)
Printing Area (max.)	291 mm × 413 mm ($11^{7/16}$ " × $16^{1/4}$ ")
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 141%, 122%, 116% Standard reproduction ratio (reduction) : 94%, 87%, 82%, 71%
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm 1/2$ ") Horizontal : ±10 mm ($\pm 3/8$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 220 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LED panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:NII, Job Separator IV:N, Key Card Counter IV:N, Color Drum (Cylinder), Card Feed Kit, Envelop Feed Kit, Ink/Master Holder, Stand, RISO Network Card, RISO PC Interface Card USB2.0
Power Source	EZ370E:100-120/220-240V~, 2.5/1.3A, 50-60Hz EZ370A:100-120/220-240V~, 2.5/1.3A, 50-60Hz EZ370AN:100-120/220-240V~, 2.5/1.3A, 50-60Hz
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54^{5/16}$ "(W) × $25^{3/8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30^{17/32}$ "(W) × $25^{3/8}$ "(D) × 26"(H))
Weight	Approx. 101 kg (222lb)

Note:

- The specifications are subject to change without prior notice.

8) Specification: EZ390

RISO EZ390

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1\frac{31}{32}$ " × $3\frac{9}{16}$ ") - 280 mm × 432 mm (11" × 17") When using the ADF unit (option) : 100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22lb) or less When using the ADF unit (option) : 50g/m ² (14-lb bond) - 128g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Paper Supply Capacity	1000 sheets (64g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 210g/m ² (110-lb index)
Image Processing Mode	Line, Photo, Duo, Pencil
Master-making Time	Approx. 20 seconds (for A4/landscape/100% reproduction ratio)
Printing Area (max.)	291 mm × 425 mm ($11\frac{7}{16}$ " × $16\frac{3}{4}$ ")
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 154%, 129%, 121% Standard reproduction ratio (reduction) : 94%, 78%, 65%, 61%
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm\frac{1}{2}$ ") Horizontal : ±10 mm ($\pm\frac{3}{8}$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 215 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LED panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:NII, Job Separator IV:N, Key Card Counter IV:N, Color Drum (Cylinder), Card Feed Kit, Envelop Feed Kit, Ink/Master Holder, Stand, RISO Network Card, RISO PC Interface Card USB2.0
Power Source	EZ390U:100-120/220-240V~, 2.5/1.3A, 50-60Hz EZ390UG:100-120/220-240V~, 2.5/1.3A, 50-60Hz
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54\frac{5}{16}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30\frac{17}{32}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H))
Weight	Approx. 101 kg (222lb)

Note:

- The specifications are subject to change without prior notice.

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9) Optional Accessories for EZ570 & EZ590

Optional Accessories

A variety of optional accessories are available to enhance the capabilities of the machine.
For details about the optional accessories, see your dealer (or authorized service representative).

◆ Auto Document Feeder AF-VI:II

Feed up to 50 sheets of originals automatically.

◆ Color Drum (Cylinder)

Simply change the Drum (Cylinder) to print in multiple colors (colours). (Case included)

◆ A4 (Letter) Drum (Cylinder) W

A special drum (cylinder) for A4 or Letter size landscape paper. (Case included)

◆ Wide Stacking Tray

This unit can take paper up to 340 mm × 555 mm ($13\frac{3}{8}$ " × $21\frac{27}{32}$ ") in size.

◆ Key Card Counter

With a single button press, shows the numbers of printed copies and consumed masters within a given period of time. This can help you manage costs.

◆ Job Separator

With the Programed Printing function, allows the machine to print and sort into groups separated by tape.

◆ Sorter TM2500

The sorters should be directly connected to the machine.
TM2500 can sort 25 copies at maximum.

◆ Document Storage Card DM-128CF

A Storage Card for using the Storage Memory function.

◆ Card Feed kit

This unit allows you to feed thicker paper such as cards.

◆ Envelope Feed Kit

This unit allows you to feed envelopes.

◆ Stand**◆ Ink/Master Holder**

A rack kit for storing supply such as ink and masters.

◆ RISO Network Card

Use to directly connect the machine to the network.
This comes with the RISO-MONITOR software that allows you to check the status of the machine from computers.

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10) Specification: EZ570**RISO EZ570**

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22 lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1\frac{31}{32}$ " × $3\frac{9}{16}$ ") - 297 mm × 420 mm ($11\frac{11}{16}$ " × $16\frac{17}{32}$ ") When using the Auto Document Feeder AF-VI:II : 100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22 lb) or less When using the Auto Document Feeder AF-VI:II : 50 g/m ² (14-lb bond) - 128 g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Paper Supply Capacity	1000 sheets (64 g/m ² (17-lb bond))
Print Paper Weight	46g/m ² (13-lb bond) - 210g/m ² (110-lb index)
Image Processing mode	Line, Photo (Standard/Portrait/Group), Duo (Line/Photo/Shadow off), Pencil (Darker/Lighter)
Master-making Time	Approx. 20 seconds (for A4/landscape/100% reproduction ratio)
Printing Area (max.)	291 mm × 413 mm ($11\frac{7}{16}$ " × $16\frac{1}{4}$ ")
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 163%, 141%, 122%, 116% Standard reproduction ratio (reduction) : 87%, 82%, 71%, 61% Margin+ : 90 - 99 %
Print Speed	Approx. 60 - 130 pages per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm\frac{19}{32}$ ") Horizontal : ±10 mm ($\pm\frac{3}{8}$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 220 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LCD Touch Panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:II, Color Drum (Cylinder), A4 (Letter) Drum (Cylinder) W, Wide Stacking Tray, Key Card Counter, Job Separator, Sorter TM2500, Document Storage Card DM-128CF, Card Feed kit, Envelope Feed Kit, Stand, Ink/Master Holder, RISO Network Card
Power Source	EZ570E, EZ570A, EZ570AN: 100-120/220-240V~,50-60Hz<3.4A/1.6A>
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54\frac{5}{16}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30\frac{17}{32}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H))
Weight	Approx. 103 kg (227 lb)

Note:

- Please note that due to improvements and changes to the machine, some images and explanations in this manual may not correspond to your machine.
- The specifications are subject to change without prior notice.

11) Specification: EZ590**RISO EZ590**

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg (22 lb) or less), sheet
Original Size (max./min.)	When using the Glass Platen : 50 mm × 90 mm ($1\frac{31}{32}$ " × $3\frac{9}{16}$ ") - 280 mm × 432 mm (11" × 17") When using the Auto Document Feeder AF-VI:II : 100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Original Paper Weight	When using the Glass Platen : 10 kg (22 lb) or less When using the Auto Document Feeder AF-VI:II : 50 g/m ² (14-lb bond) - 128 g/m ² (34-lb bond)
Print Paper Size (max./min.)	100 mm × 148 mm ($3\frac{15}{16}$ " × $5\frac{27}{32}$ ") - 310 mm × 432 mm ($12\frac{3}{16}$ " × 17")
Paper Supply Capacity	1000 sheets (64 g/m ² (17-lb bond))
Print Paper Weight	46 g/m ² (13-lb bond) - 210 g/m ² (110-lb index)
Image Processing mode	Line, Photo (Standard/Portrait/Group), Duo (Line/Photo/Shadow off), Pencil (Darker/Lighter)
Master-making Time	Approx. 20 seconds (for A4/landscape/100% reproduction ratio)
Printing Area (max.)	291 mm × 425 mm ($11\frac{7}{16}$ " × $16\frac{3}{4}$ ")
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 200%, 154%, 129%, 121% Standard reproduction ratio (reduction) : 78%, 65%, 61%, 50% Margin+ : 90 - 99 %
Print Speed	Approx. 60 - 130 pages per minute (five steps variable)
Print Position Adjustment	Vertical : ±15 mm ($\pm 1\frac{9}{32}$ ") Horizontal : ±10 mm ($\pm \frac{3}{8}$ ")
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 215 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LCD Touch Panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-VI:II, Color Drum (Cylinder), A4 (Letter) Drum (Cylinder) W, Wide Stacking Tray, Key Card Counter, Job Separator, Sorter TM2500, Document Storage Card DM-128CF, Card Feed kit, Envelope Feed Kit, Stand, Ink/Master Holder, RISO Network Card
Power Source	EZ590U : 100-120/220-240V~, 50-60Hz<3.4A/1.6A>
Dimensions	When in use : 1380 mm(W) × 645 mm(D) × 660 mm(H) ($54\frac{5}{16}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H)) When in storage : 775 mm(W) × 645 mm(D) × 660 mm(H) ($30\frac{17}{32}$ "(W) × $25\frac{3}{8}$ "(D) × 26"(H))
Weight	Approx. 103 kg (227 lb)

Note:

- Please note that due to improvements and changes to the machine, some images and explanations in this manual may not correspond to your machine.
- The specifications are subject to change without prior notice.

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MEMO

12) Optional Accessories for EV2560, EV2590, EV3560, EV3760, EV3790.

选购附件

有各种各样的选购附件可用于增强本机功能。
如需有关选购附件的详细信息，请参阅对应的使用手册。

- **彩色滚筒**

有多种色彩可供选择，如蓝色、红色、绿色及棕色。滚筒应存放在自己的盒子中。

- **自动进稿机 AF-VI:NII**

可自动供给多达 50 张原稿。

- **分页机 IV:N**

使用编程印刷功能，可供本机进行印刷并以胶带分页成组。

- **磁卡计数器 IV:N**

只要按一个键，即可显示指定时间段内的印刷量与版纸消耗量。这有助于成本管理。

- **厚纸进纸单元**

供卡片等厚纸使用。需从本机通过厚纸时，请换上此机组。

- **信封进纸单元**

用于信封。

- **油墨 / 版纸支架**

用于储存备件（如油墨与版纸）的支架组件。

- **架台**

- **理想 PC 接口卡 USB2.0C（适用于 EV3760/EV3560/EV2560）**

用于以并口线连接本机与计算机。

- **理想网络卡 C**

用于直接将本机接入网络。

此附件附带 RISO-MONITOR 软件，可用于从计算机检查本机状态。

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13) Specification: EV2560

RISO EV2560

制版 / 印刷方法	高速数字制版 / 全自动模版印刷
原稿类型	书本（10 kg 或以下）、稿纸
原稿尺寸（最大 / 最小）	使用扫描台玻璃时：50 mm × 90 mm - 297 mm × 420 mm 使用自动进稿机组（选购）时：100 mm × 148 mm - 310 mm × 432 mm
原稿纸张重量	使用扫描台玻璃时：10 kg 或以下 使用自动进稿机组（选购）时：50g/m ² - 128g/m ²
印刷纸张尺寸（最大 / 最小）	100 mm × 148 mm - 310 mm × 432 mm
进纸容量	1000 张（64g/m ² ）
印刷纸张重量	46g/m ² - 157g/m ²
图像处理模式	文字、照片、图文、铅笔
制版时间	约 25 秒（对于 A4/ 纵向 /100% 缩放比率）
印刷区域（最大）	251 mm × 357 mm
印刷缩放比率	标准缩放比率（放大）：141%, 122%, 116% 标准缩放比率（缩小）：94%, 87%, 82%, 71%
印刷速度	约每分钟 60 - 130 张（5 级速度调节）
印刷位置调整	垂直：±15 mm，水平：±10 mm
油墨供给	全自动
版纸供给 / 回收	全自动
废版盒容量	100 张
用户界面	带进度箭头指示灯的 LED 面板，正面操作
选购附件	自动进稿机 AF-VI:NII、分页机 IV:N、磁卡计数器 IV:N、彩色滚筒、厚纸进纸单元、信封进纸单元、油墨 / 版纸支架、架台、理想网络卡 C、理想 PC 接口卡 USB2.0C
电源	EV2560C：220-240V~, 1.3A, 50-60Hz
尺寸	使用时：1380 mm（W）× 645 mm（D）× 660 mm（H） 存储时：775 mm（W）× 645 mm（D）× 660 mm（H）
重量	约 100 kg

注：

- 以上规格如果变更恕不另行通知。

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14) Specification: EV2590**RISO EV2590**

制版 / 印刷方法	高速数字制版 / 全自动模版印刷
原稿类型	书本（10 kg 或以下）、稿纸
原稿尺寸（最大 / 最小）	使用扫描台玻璃时：50 mm × 90 mm - 297 mm × 420 mm 使用自动进稿机组（选购）时：100 mm × 148 mm - 310 mm × 432 mm
原稿纸张重量	使用扫描台玻璃时：10 kg 或以下 使用自动进稿机组（选购）时：50g/m ² - 128g/m ²
印刷纸张尺寸（最大 / 最小）	100 mm × 148 mm - 310 mm × 432 mm
进纸容量	1000 张（64g/m ² ）
印刷纸张重量	46g/m ² - 157g/m ²
图像处理模式	文字、照片、图文、铅笔
制版时间	约 25 秒（对于 A4/ 纵向 /100% 缩放比率）
印刷区域（最大）	251 mm × 357 mm
印刷缩放比率	标准缩放比率（放大）：141%, 122%, 116% 标准缩放比率（缩小）：94%, 87%, 82%, 71%
印刷速度	约每分钟 60 - 130 张（5 级速度调节）
印刷位置调整	垂直：±15 mm，水平：±10 mm
油墨供给	全自动
版纸供给 / 回收	全自动
废版盒容量	100 张
用户界面	带进度箭头指示灯的 LED 面板，正面操作
选购附件	自动进稿机 AF-VI:NII、分页机 IV:N、磁卡计数器 IV:N、彩色滚筒、厚纸进纸单元、信封进纸单元、油墨 / 版纸支架、架台、理想网络卡 C
电源	EV2590C：220-240V~, 1.3A, 50-60Hz
尺寸	使用时：1380 mm（W）× 645 mm（D）× 660 mm（H） 存储时：775 mm（W）× 645 mm（D）× 660 mm（H）
重量	约 100 kg

注：

- 以上规格如果变更恕不另行通知。

0217

15) Specification: EV3560

RISO EV3560

制版 / 印刷方法	高速数字制版 / 全自动模版印刷
原稿类型	书本（10 kg 或以下）、稿纸
原稿尺寸（最大 / 最小）	使用扫描台玻璃时：50 mm × 90 mm - 297 mm × 420 mm 使用自动进稿机组（选购）时：100 mm × 148 mm - 310 mm × 432 mm
原稿纸张重量	使用扫描台玻璃时：10 kg 或以下 使用自动进稿机组（选购）时：50g/m ² - 128g/m ²
印刷纸张尺寸（最大 / 最小）	100 mm × 148 mm - 310 mm × 432 mm
进纸容量	1000 张（64g/m ² ）
印刷纸张重量	46g/m ² - 210g/m ²
图像处理模式	文字、照片、图文、铅笔
制版时间	约 20 秒（对于 A4/ 纵向 /100% 缩放比率）
印刷区域（最大）	251 mm × 357 mm
印刷缩放比率	任意指定：50 - 200% 标准缩放比率（放大）：141%, 122%, 116% 标准缩放比率（缩小）：94%, 87%, 82%, 71%
印刷速度	约每分钟 60 - 130 张（5 级速度调节）
印刷位置调整	垂直：±15 mm，水平：±10 mm
油墨供给	全自动
版纸供给 / 回收	全自动
废版盒容量	100 张
用户界面	带进度箭头指示灯的 LED 面板，正面操作
选购附件	自动进稿机 AF-VI:NII、分页机 IV:N、磁卡计数器 IV:N、彩色滚筒、厚纸进纸单元、信封进纸单元、油墨 / 版纸支架、架台、理想网络卡 C、理想 PC 接口卡 USB2.0C
电源	EV3560C：100-120/220-240V~, 2.5/1.3A, 50-60Hz
尺寸	使用时：1380 mm（W）× 645 mm（D）× 660 mm（H） 存储时：775 mm（W）× 645 mm（D）× 660 mm（H）
重量	约 101 kg

注：

- 以上规格如果变更恕不另行通知。

0218

16) Specification: EV3760

RISO EV3760

制版 / 印刷方法	高速数字制版 / 全自动模版印刷
原稿类型	书本（10 kg 或以下）、稿纸
原稿尺寸（最大 / 最小）	使用扫描台玻璃时：50 mm × 90 mm - 297 mm × 420 mm 使用自动进稿机组（选购）时：100 mm × 148 mm - 310 mm × 432 mm
原稿纸张重量	使用扫描台玻璃时：10 kg 或以下 使用自动进稿机组（选购）时：50g/m ² - 128g/m ²
印刷纸张尺寸（最大 / 最小）	100 mm × 148 mm - 310 mm × 432 mm
进纸容量	1000 张（64g/m ² ）
印刷纸张重量	46g/m ² - 210g/m ²
图像处理模式	文字、照片、图文、铅笔
制版时间	约 20 秒（对于 A4/ 横向 /100% 缩放比率）
印刷区域（最大）	291 mm × 413 mm
印刷缩放比率	任意指定：50 - 200% 标准缩放比率（放大）：141%, 122%, 116% 标准缩放比率（缩小）：94%, 87%, 82%, 71%
印刷速度	约每分钟 60 - 130 张（5 级速度调节）
印刷位置调整	垂直：±15 mm，水平：±10 mm
油墨供给	全自动
版纸供给 / 回收	全自动
废版盒容量	100 张
用户界面	带进度箭头指示灯的 LED 面板，正面操作
选购附件	自动进稿机 AF-VI:NII、分页机 IV:N、磁卡计数器 IV:N、彩色滚筒、厚纸进纸单元、信封进纸单元、油墨 / 版纸支架、架台、理想网络卡 C、理想 PC 接口卡 USB2.0C
电源	EV3760C：100-120/220-240V~, 2.5/1.3A, 50-60Hz
尺寸	使用时：1380 mm（W）× 645 mm（D）× 660 mm（H） 存储时：775 mm（W）× 645 mm（D）× 660 mm（H）
重量	约 101 kg

注：

- 以上规格如果变更恕不另行通知。

0219

17) Specification: EV3790

技术规格

RISO EV3790

制版 / 印刷方法	高速数字制版 / 全自动模版印刷
原稿类型	书本（10 kg 或以下）、稿纸
原稿尺寸（最大 / 最小）	使用扫描台玻璃时：50 mm × 90 mm - 297 mm × 420 mm 使用自动进稿机组（选购）时：100 mm × 148 mm - 310 mm × 432 mm
原稿纸张重量	使用扫描台玻璃时：10 kg 或以下 使用自动进稿机组（选购）时：50g/m ² - 128g/m ²
印刷纸张尺寸（最大 / 最小）	100 mm × 148 mm - 310 mm × 432 mm
进纸容量	1000 张（64g/m ² ）
印刷纸张重量	46g/m ² - 210g/m ²
图像处理模式	文字、照片、图文、铅笔
制版时间	约 20 秒（对于 A4/ 横向 /100% 缩放比率）
印刷区域（最大）	291 mm × 413 mm
印刷缩放比率	任意指定：50 - 200% 标准缩放比率（放大）：141%, 122%, 116% 标准缩放比率（缩小）：94%, 87%, 82%, 71%
印刷速度	约每分钟 60 - 130 张（5 级速度调节）
印刷位置调整	垂直：±15 mm，水平：±10 mm
油墨供给	全自动
版纸供给 / 回收	全自动
废版盒容量	100 张
用户界面	带进度箭头指示灯的 LED 面板，正面操作
选购附件	自动进稿机 AF-VI:NII、分页机 IV:N、磁卡计数器 IV:N、彩色滚筒、厚纸进纸单元、信封进纸单元、油墨 / 版纸支架、架台、理想网络卡 C
电源	EV3790C：100-120/220-240V~, 2.5/1.3A, 50-60Hz
尺寸	使用时：1380 mm（W）× 645 mm（D）× 660 mm（H） 存储时：775 mm（W）× 645 mm（D）× 660 mm（H）
重量	约 101 kg

注：

- 以上规格如果变更恕不另行通知。

0220

18) Optional Accessories for EV5790.

选购附件

有各种各样的选购附件可用于增强本机功能。

如需了解有关选购附件的详情，请联系您的经销商（或授权维修中心）。

◆ **自动进稿机 AF-VI:II**

可自动供给多达 50 张原稿。

◆ **彩色滚筒**

只需更换滚筒便可多种颜色印刷。（包含外壳）

◆ **A4 滚筒 W**

A4 尺寸横向纸张的特殊滚筒。（包含外壳）

◆ **宽型堆垛盒**

本单元最大可以容纳 340 mm×555 mm 尺寸的纸张。

◆ **磁卡计数器**

只要按一个键，即可显示指定时间段内的印刷量与版纸消耗量。这有助于成本管理。

◆ **分页机**

使用编程印刷功能，可供本机进行印刷并以胶带分页成组。

◆ **分页机 TM2500**

应将分页机直接连接到本机。

TM2500 最多可以为 25 份印刷件分页。

◆ **卡片进纸组件**

通过本机组可以送入较厚的纸张，如卡片。

◆ **信封进纸组件**

通过本机组可以送入信封。

◆ **架台**

◆ **油墨 / 版纸支架**

用于储存备件（如油墨与版纸）的支架组件。

◆ **RISO Network Card C**

用于直接将本机接入网络。

此附件附带 RISO-MONITOR 软件，可用于从计算机检查本机状态。

0221

19) Specification: EV5790

技术规格

RISO EV5790

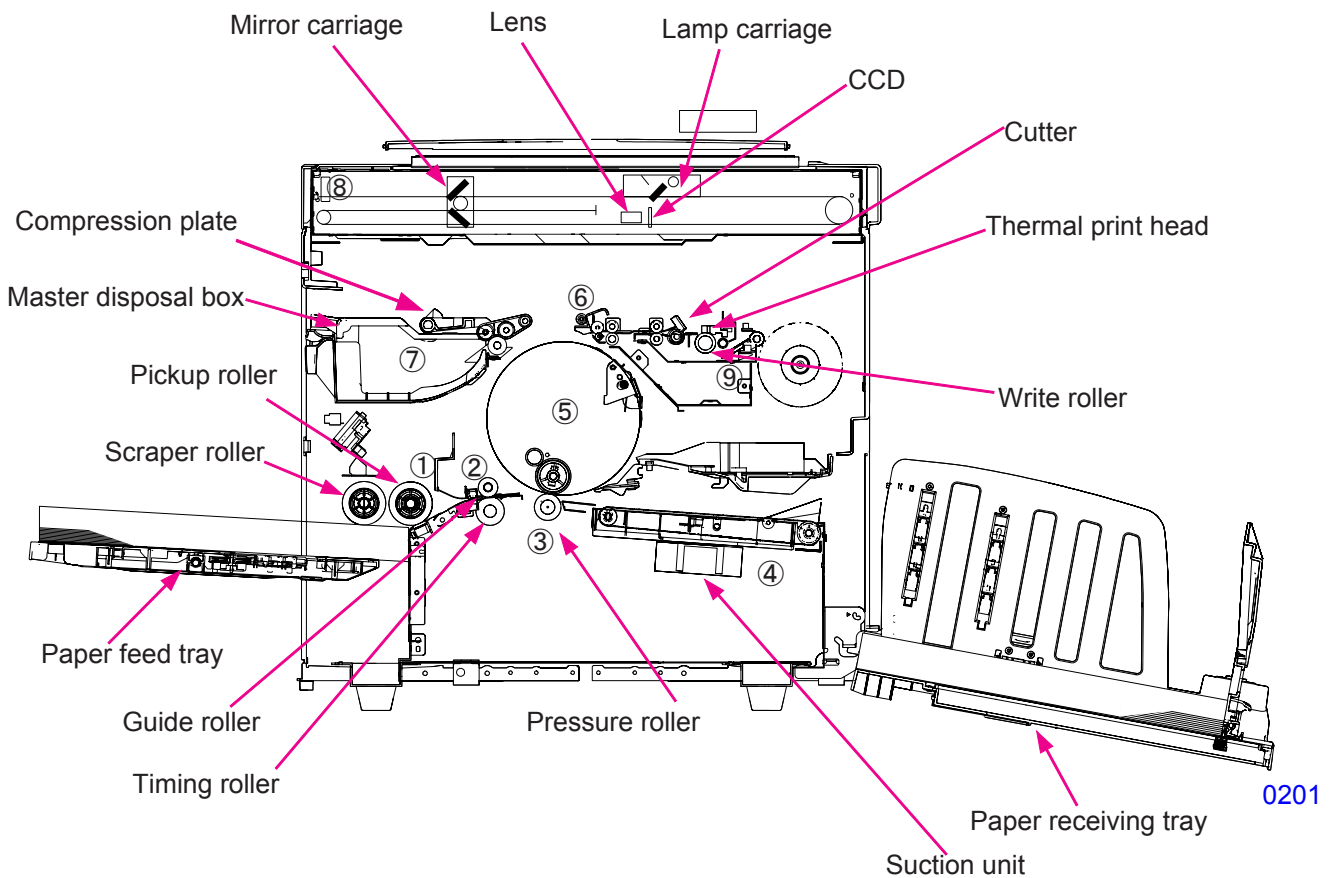
制版 / 印刷方法	高速数字制版 / 全自动模版印刷
原稿类型	书本（10 kg 或以下）、稿纸
原稿尺寸（最大 / 最小）	使用扫描台玻璃时： 50 mm × 90 mm - 297 mm × 420 mm 使用自动进稿机 AF-VI:II 时： 100 mm × 148 mm - 310 mm × 432 mm
原稿纸张重量	使用扫描台玻璃时：10 kg 或以下 使用自动进稿机 AF-VI:II 时：50 g/m ² - 128 g/m ²
印刷纸张尺寸（最大 / 最小）	100 mm × 148 mm - 310 mm × 432 mm
进纸容量	1000 张（64 g/m ² ）
印刷纸张重量	46 g/m ² - 210 g/m ²
图像处理模式	文字、照片（标准 / 肖像 / 团体）、图文（文字 / 图像 / 消除底灰）、铅笔（较浓 / 较淡）
制版时间	约 20 秒（对于 A4/ 横向 /100% 缩放比率）
印刷区域（最大）	291 mm × 413 mm
印刷缩放比率	无倍缩放：50 - 200% 标准缩放比率（放大）：163%、141%、122%、116% 标准缩放比率（缩小）：87%、82%、71%、61% 页边放大：90 - 99 %
印刷速度	约每分钟 60 - 130 页（5 级速度调节）
印刷位置调整	垂直：±15 mm，水平：±10 mm
油墨供给	全自动
版纸供给 / 回收	全自动
废版盒容量	100 张
用户界面	带进度箭头指示灯的 LCD 触摸面板，正面操作
选购附件	自动进稿机 AF-VI:II、彩色滚筒、A4 滚筒 W、宽型堆垛盒、磁卡计数器、分页机、分页机 TM2500、卡片进纸组件、信封进纸组件、架台、油墨 / 版纸支架、RISO Network Card C
电源	EV5790C：100-120/220-240V~, 50-60Hz<3.4A/1.6A>
尺寸	使用时：1,380 mm（W）× 645 mm（D）× 660 mm（H） 存储时：775 mm（W）× 645 mm（D）× 660 mm（H）
重量	约 103 kg

注：

- 请注意，由于本机的改进与修改，本手册中的某些图像与说明可能与您的速印机不同。
- 以上规格如果变更恕不另行通知。

0222

2. Cross-Sectional Diagram



(1) First paper feed area:

Sends paper from the paper-feed tray one sheet at a time.

(2) Second paper feed area:

Stops the paper sent from the first paper-feed stage, and accurately feeds it to the print drum and pressure section.

(3) Press section:

The pressure roller presses the paper firmly against the print drum for printing.

(4) Paper ejection section:

Removes the printed paper from the print drum using the separator, and sends it to the paper-receiving tray.

(5) Print drum:

Supplies ink from the ink cartridge to the surface of the print drum for printing.

(6) Clamp unit:

Clamps the leading edge of a master onto the drum.

(7) Master removal section:

Peels the master from the print drum after use, and discharges it into the master disposal box.

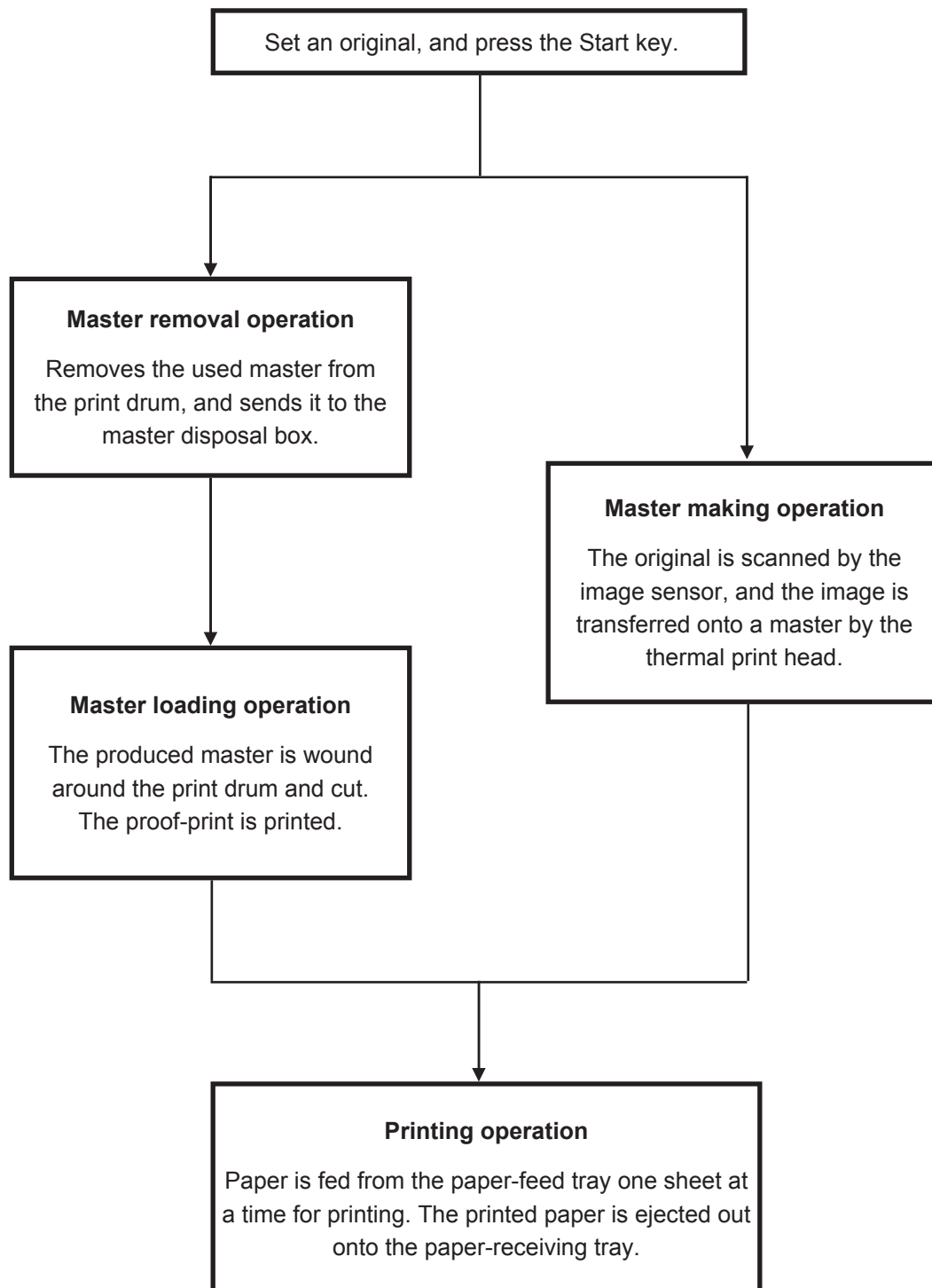
(8) Flatbed section:

The lamp carriage and mirror carriage move, and the CCD unit reads the original on the scanner table.

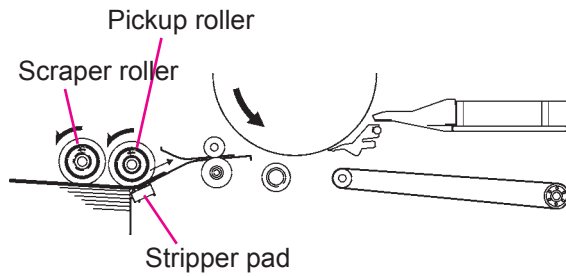
(9) Master-making section:

Transports and creates a master using the thermal print head, then sends the produced master to the print drum, and cuts the master material.

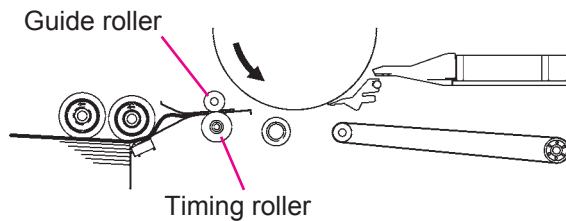
3. Operation Outline



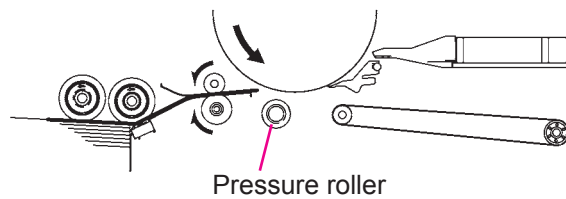
4. Outline of Paper Feeding, Printing and Paper Ejection Operations.



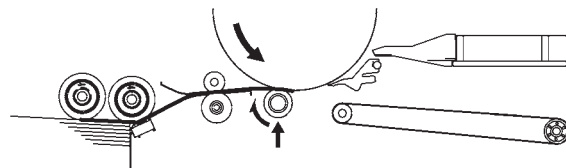
- 1) When the print drum rotates, the scraper roller and pickup roller also turn to feed paper. The stripper pad allows only one sheet to pass through to the second paper-feed area.



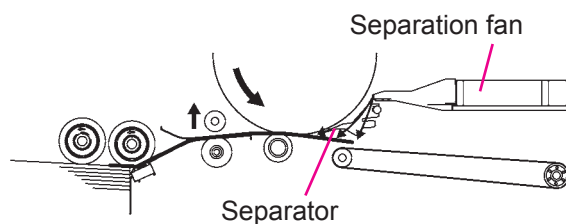
- 2) The paper sent from the first paper feed area contacts the timing roller and guide roller, and stops temporarily. This causes slight buckling of the paper.



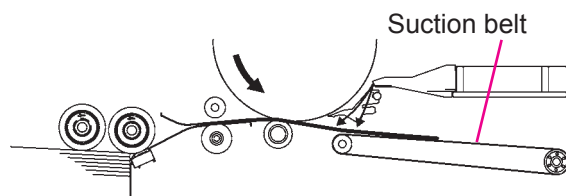
- 3) The timing roller and guide roller start rotating, feeding paper to the pressure section. This operation is referred to as the [Second paper feed]. To prevent tension from being placed on the end of the paper, the scraper roller and pickup roller are free to spin.



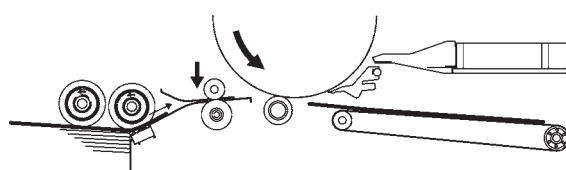
- 4) When the paper is fed further in from the second paper feed area, the pressure roller rises to clamp the paper between the drum and pressure roller to start the printing operation.



- 5) The printed paper is removed from the print drum by the separator and separation fan. When the pressure roller rises, the guide roller also moves up to prevent tension from being placed on the tailing end of the paper.



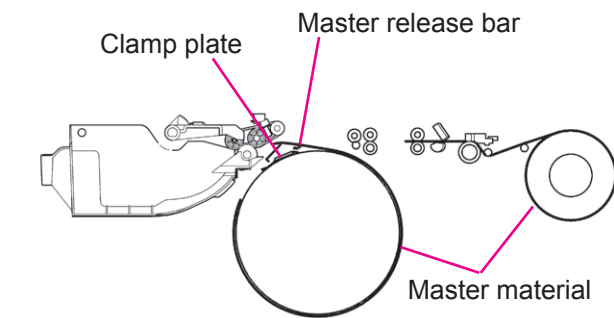
- 6) Then, the suction fan pulls in the air to keep the paper firmly on the transfer belts while the paper is carried to the paper-receiving tray.



- 7) The next sheet of paper is sent to the first paper feed area, and the guide roller come down to nip with the timing roller.

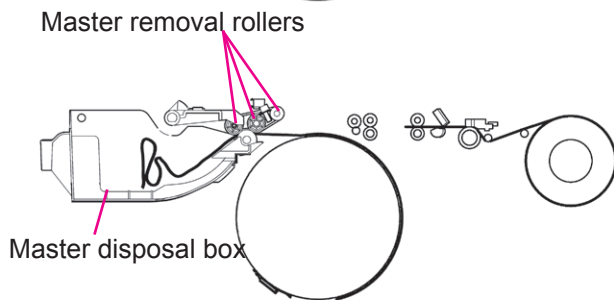
0202

5. Outline of Master removal, Master making and Master Loading Operations.

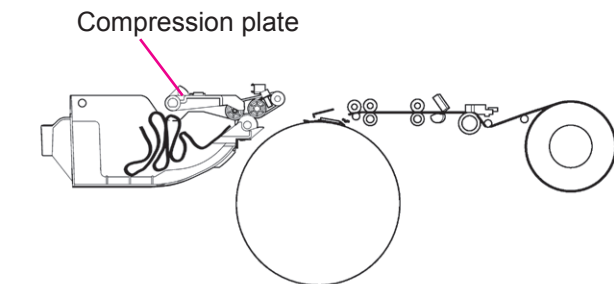


Master removal operation

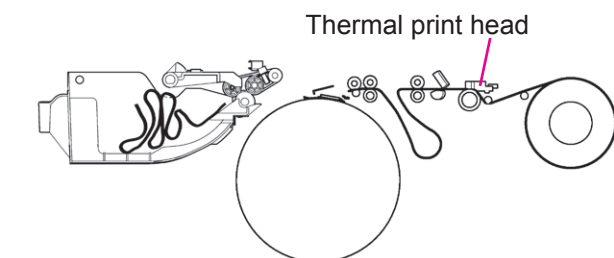
- (1) The clamp plate holding the leading edge of the master opens and the master release bar rises to lift the master out from under the clamp plate.



- (2) The master removal rollers and print drum rotate, thereby separating the master from the print drum and sending it to the master disposal box.

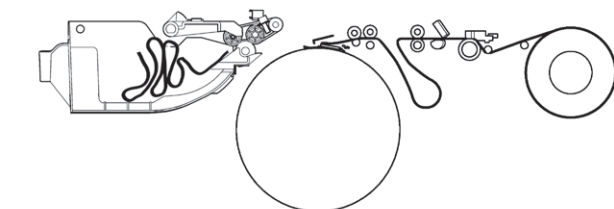


- (3) The motion of the compression plate starts, pressing the master into the master disposal box.



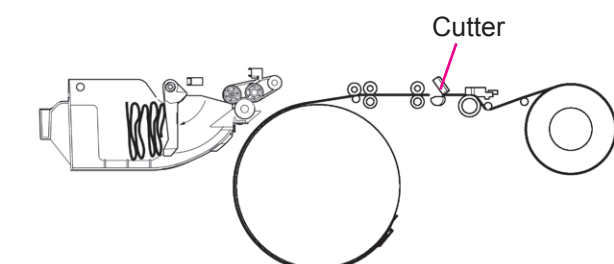
Master making operation

- (1) The CCD reads the original, and the thermal print head burns the image onto a master material.



Master loading operation

- (1) The leading edge of the master is sent to the clamp plate on the print drum and the leading edge of the master material is clamped.



- (2) The print drum rotates to wind the master around it.

- (3) The cutter cuts the master material.

MEMO

CHAPTER 3: MAIN DRIVE

Contents

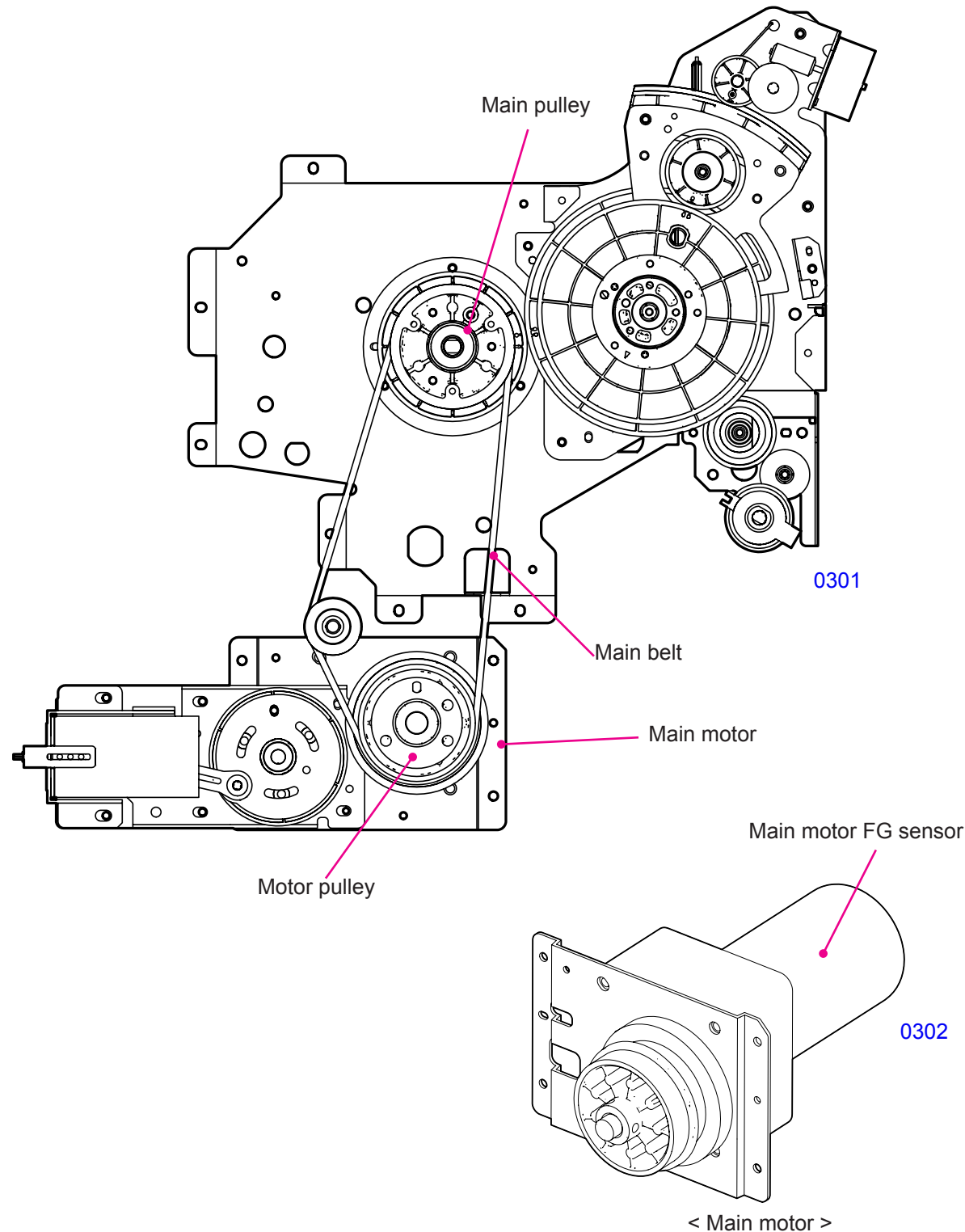
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Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

1. Main Drive Mechanism

When the Main motor is turned on, the Motor pulley rotates and the rotation is transmitted to the Main pulley by the Main belt. The Main motor FG sensor detects the speed and the angle position of the Print drum.



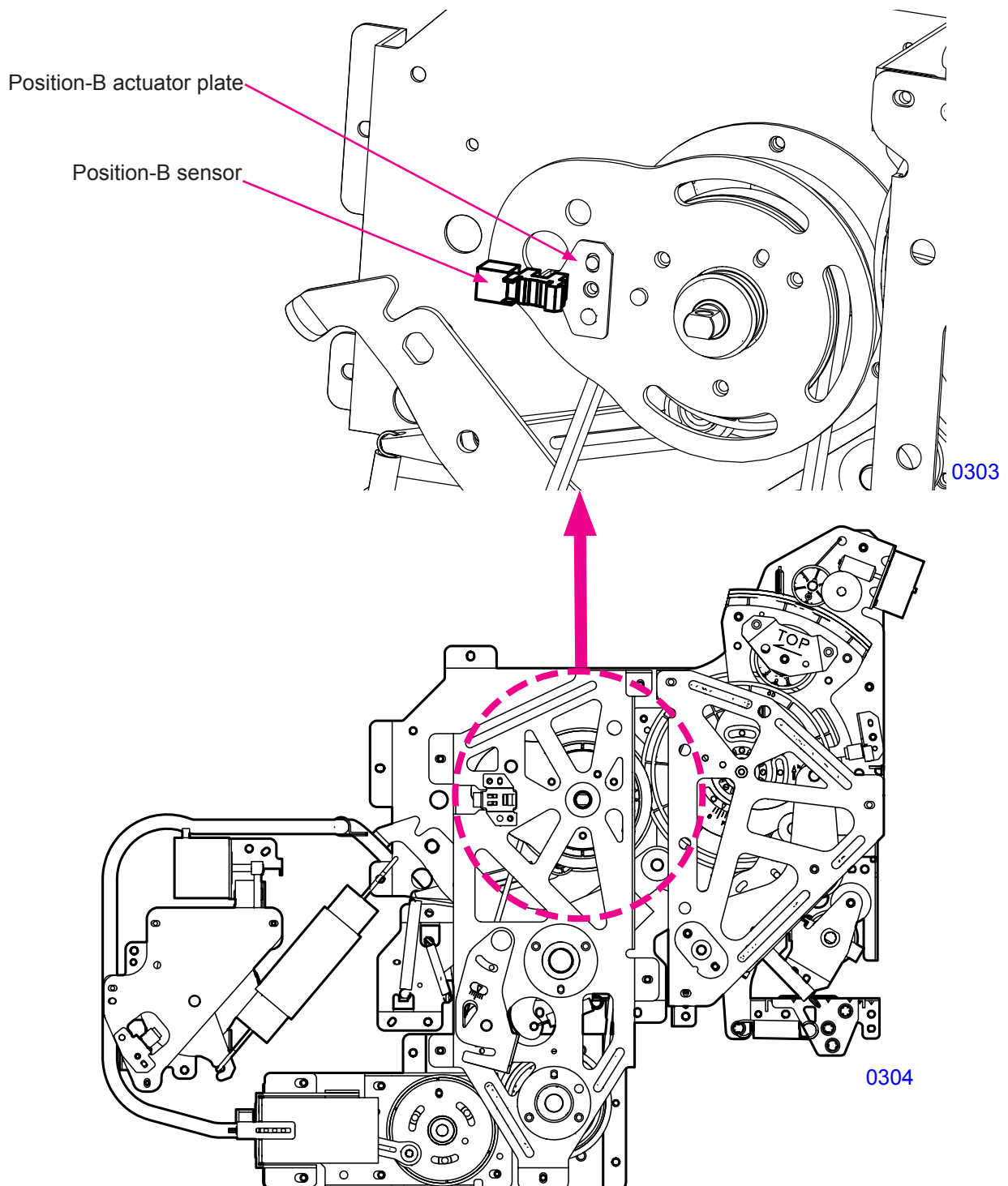
2. Print Drum Angle Detection

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Print drum angle is calculated by the Main motor FG sensor pulse count from the Position-B of the machine drive. The Position-B of the machine drive is detected by the Position-B sensor and the Position-B sensor actuator plate. The Position-B of the machine drive is where the center of the Position-B sensor actuator plate is at the center of the sensor.

40 degrees Print drum rotation from this Position-B is called the Print drum Position-A.

The Print drum angle is referred as 0 degrees at this Position-A. For a reference, the Main motor FG count for one Print drum rotation is 2933 pulses.

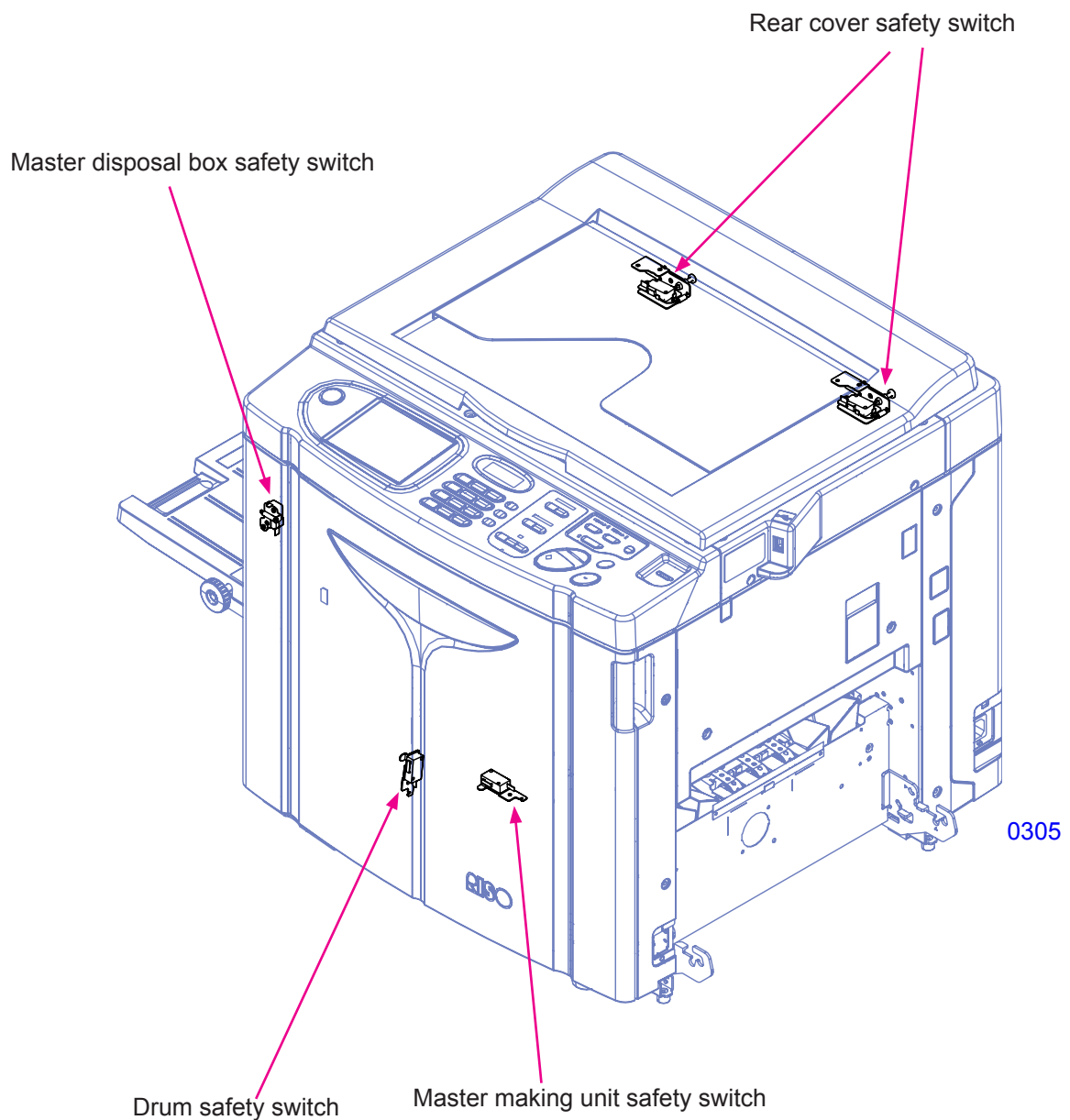


3. Main Motor Safety Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Five safety switches (Rear cover safety switches, Master disposal box safety switch, Master making unit safety switch and Print drum safety switch) prevent the activation of the following listed motors and electrical components if any one of the safety switch is deactivated.

- Main motor
- Clamp motor
- Master compression motor
- Master removal motor
- Separation fan



Disassembly

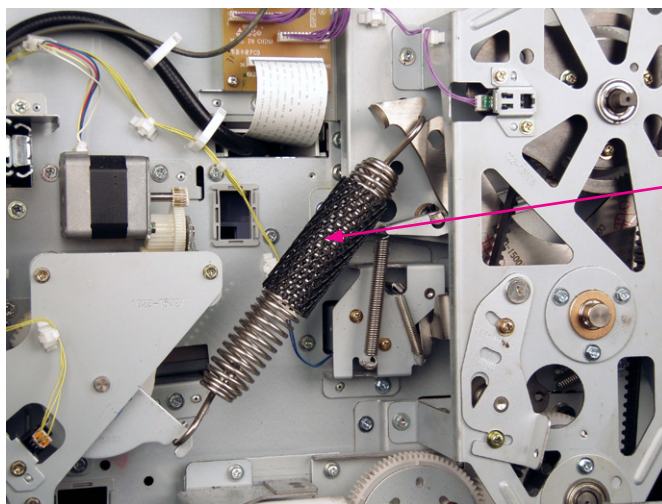
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

<Precautions to work safely on the drive area >

< Following three points must be followed when working on the drive area for SAFETY reasons. >

Working on the Main Drive area and Press Section with the Pressure spring attached on the machine may cause the moving parts, such as the Gears and Cams, to move suddenly and cause injuries. Make sure to follow the instructions below before working on the Main Drive and Press Section.

- 1) When performing maintenance on the main drive section and press section, remove the Pressure spring at the start of the disassembly, and attach it only at the end of the reassembly. (Refer to the next page for the spring removal procedure.)

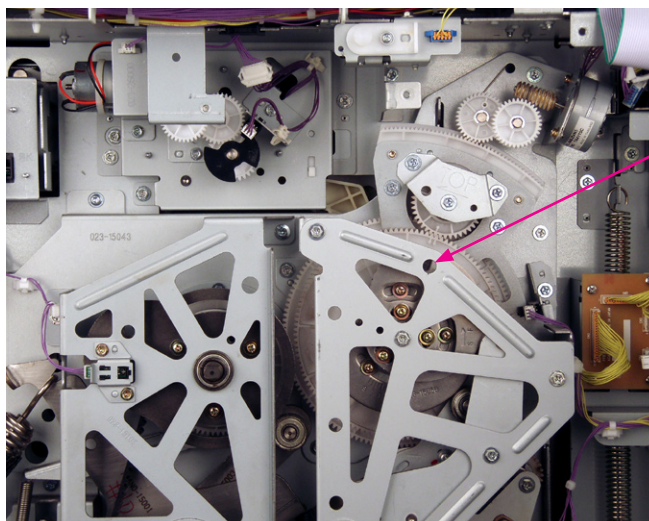


Pressure spring

0307

- 2) Activate Test Mode No. 892 <Machine Position-B Stop> to stop the machine at Position-B.
<Refer to the comment in blue color given on step-3 below.>
- 3) Set the vertical print position at center position, and insert 8 mm diameter x 160 mm long JIG shaft into the Position-B phase alignment hole, located on the paper feed timing area, to prevent the drive area from moving. **<Turn OFF the machine power just before inserting the JIG shaft.>**
(The jig shaft holes on the Outer and Inner vertical positioning gears meet once at every 5 turns of the Inner vertical positioning gear. Repeat Test Mode No. 892 explained on above step-2 until the jig shaft holes on the two gears meet.)

<CAUTION: Power to the machine should NEVER be applied when the JIG shaft is inserted in the machine.>



Position-B phase
alignment hole on the
Paper feed timing area.

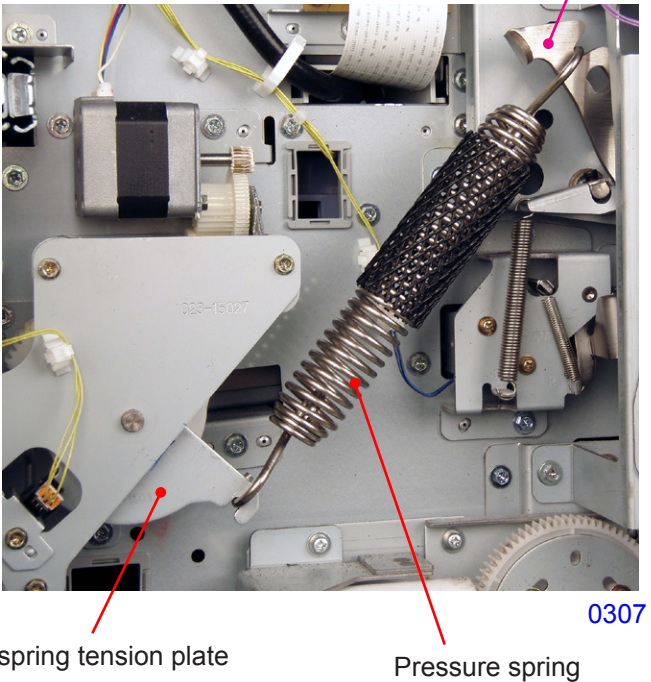
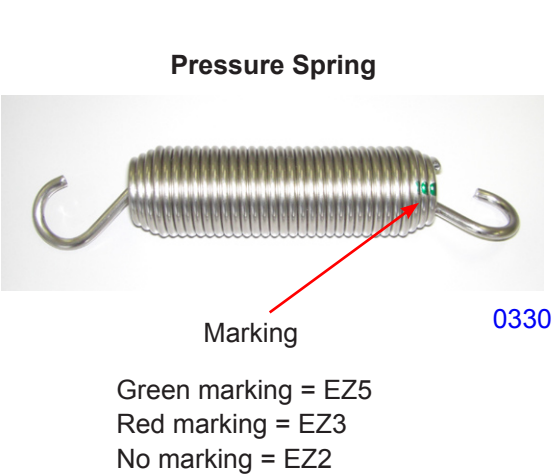
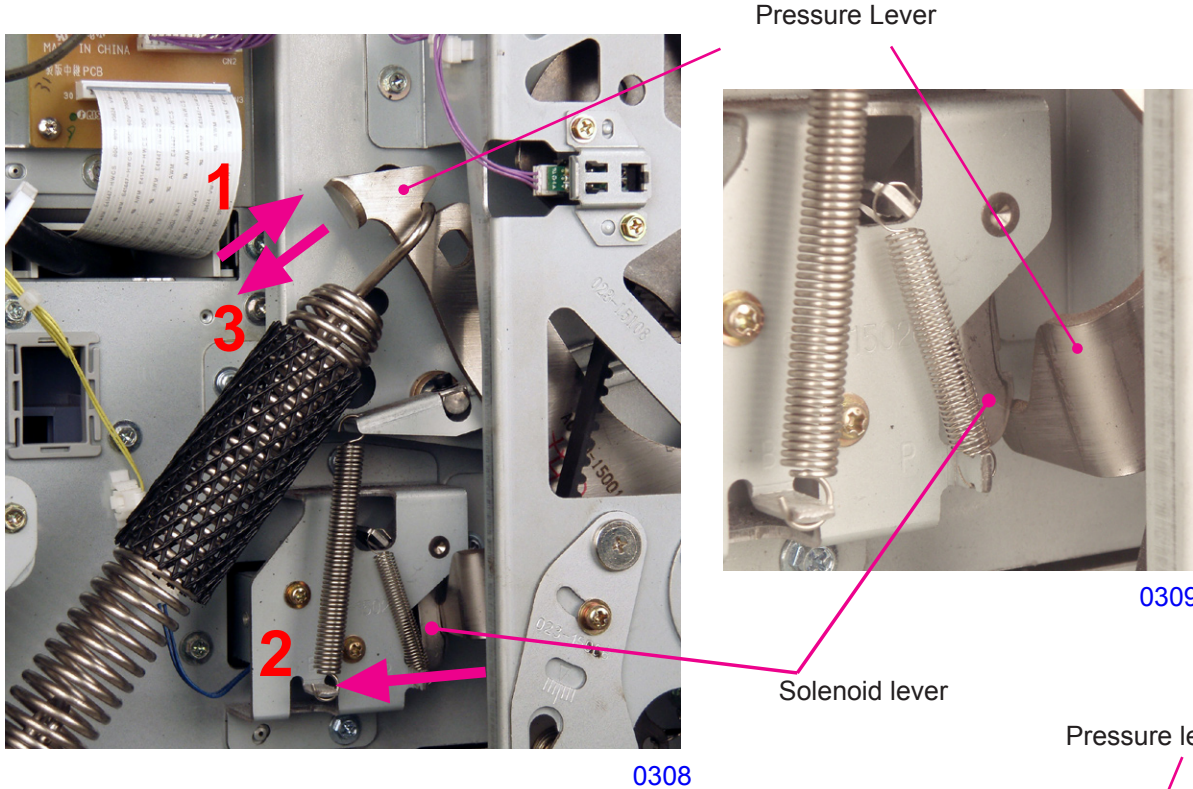
0306

1. Removing the Pressure Spring

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	O	O

No pressure control mechanism on EZ2 and EV2.

- (1) Make confidential master on the Print drum.
- (2) Run Test mode No.908 (Pressure control maintenance positioning adjustment), remove the Print drum and switch OFF the machine power.
- (3) Remove the Rear cover, and swing open the Power supply unit and Mechanical control PCB bracket.
- (4) Push the Pressure lever over to the right and unhook the Solenoid lever from the Pressure lever. Then return the Pressure lever slowly to the left.
- (5) Remove the Pressure spring from the Pressure lever after removing the other end from the Pressure spring tension plate.



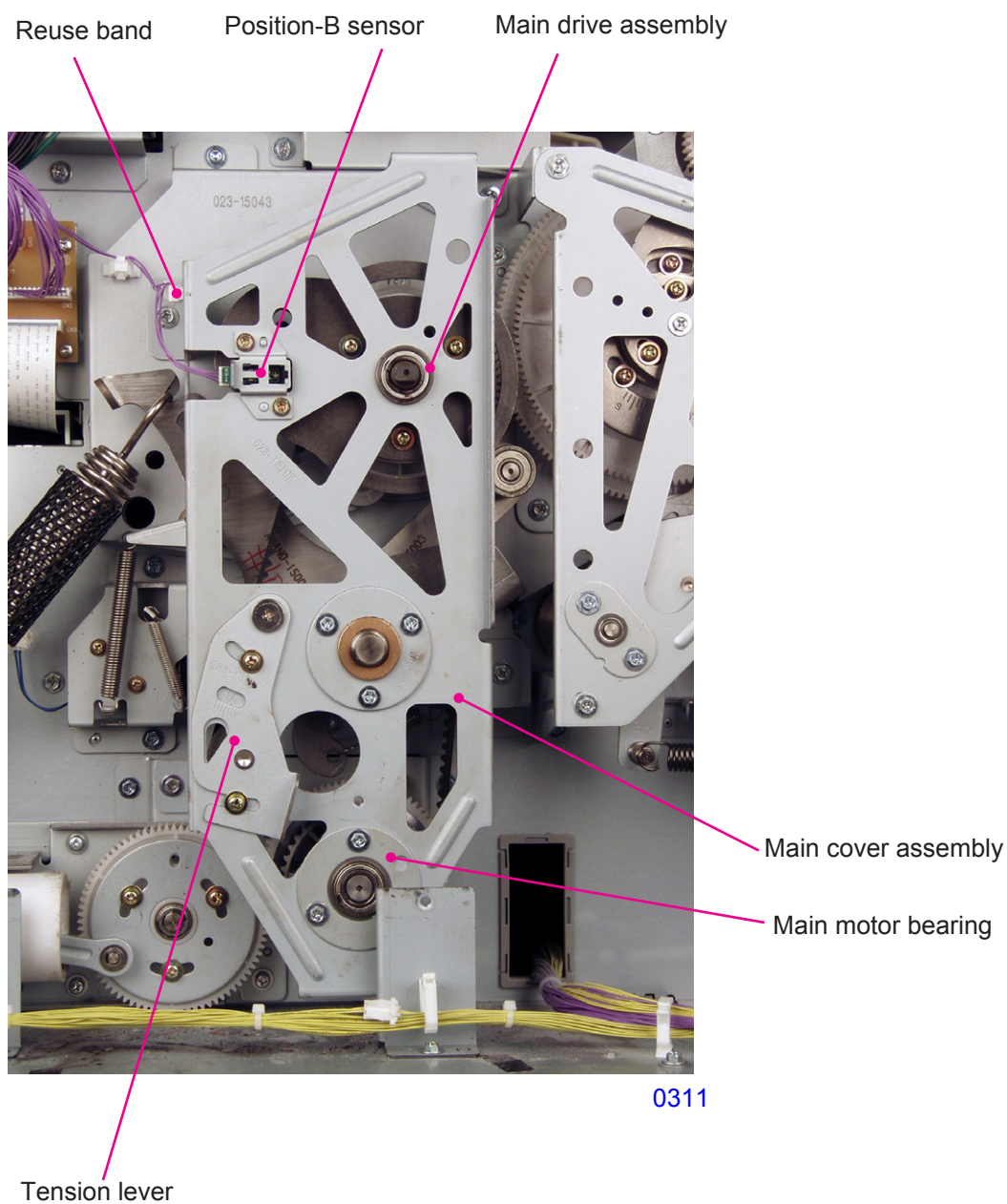
2. Removing the Main Belt

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

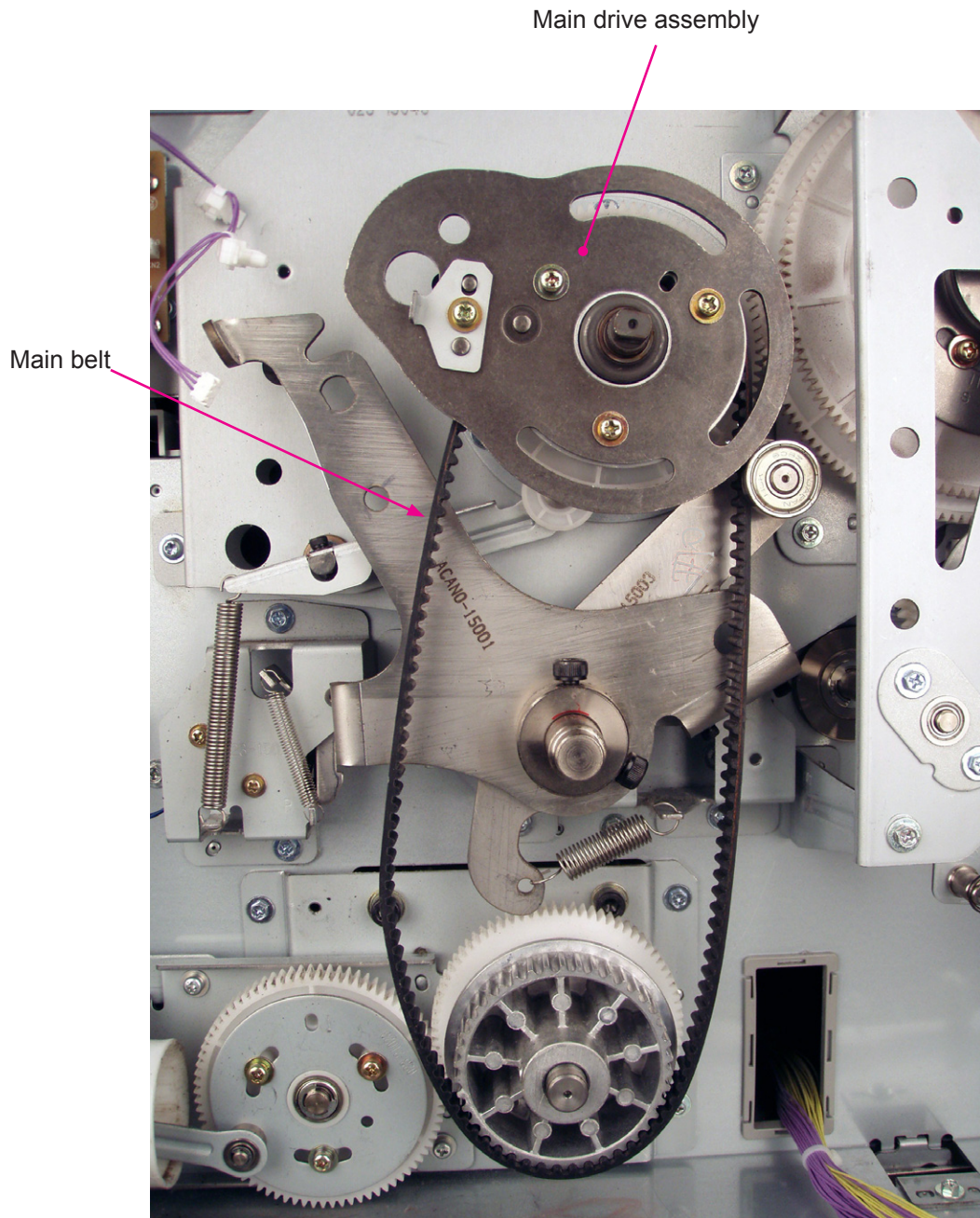
- (1) Remove the Pressure spring.
- (2) Insert 8 mm diameter x160 mm long JIG shaft into the Position-B phase alignment hole on the paper feed timing area (refer to page No.3-5.)
- (3) Unplug the position B sensor connector and remove Reuse band (1 pc) from main cover assembly.
- (4) Loosen screws (M4 x 8 screw; 2 pcs) on the Tension lever, and release the tension on the Main belt.
- (5) Remove the Main motor bearing assembly (M4 x 8 screw; 3 pcs).
- (6) Remove the Main cover assembly (M4 x 8 screw; 5 pcs).

* Remove the Main cover assembly slowly, pushing on the Main drive assembly to avoid pulling the Main drive assembly off the machine.

- continued on next page -



(7) Remove the Main belt.



0312

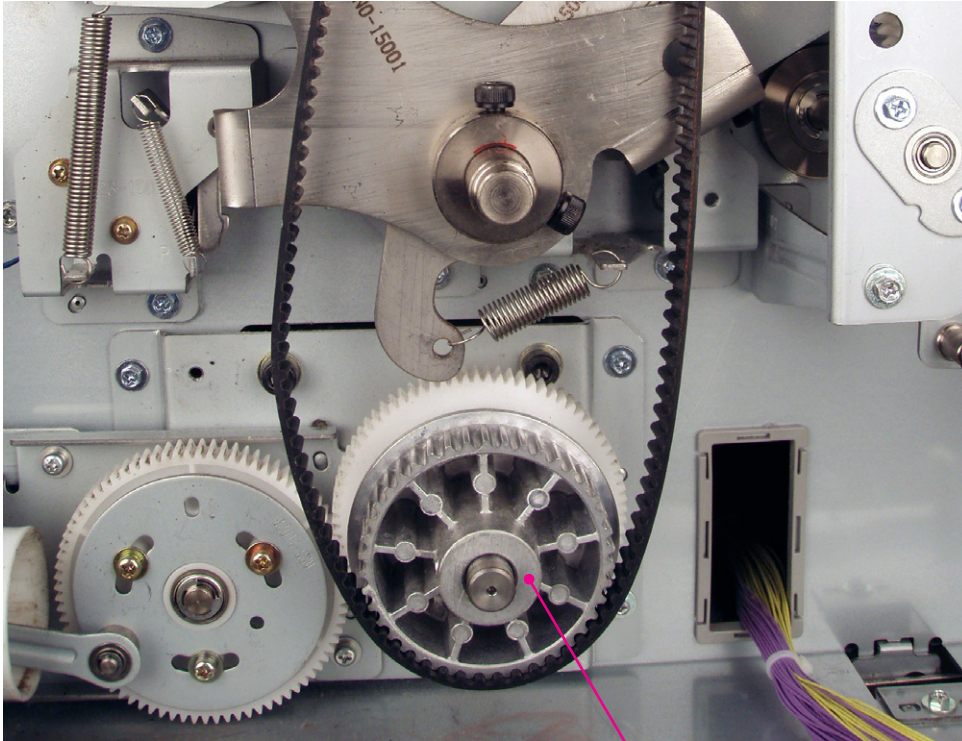
< Precautions in assembly >

- When putting the Main cover assembly back on the machine, push it firmly against the machine.
- Tighten the screw on the far top right on the Main cover assembly first.

3. Removing the Main Motor Pulley Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Remove the Main belt from the machine (Refer to page No.3-7).
- (2) Loosen set screws (M6 x 8 set screw; 2 pcs), and remove the Main motor pulley assembly.

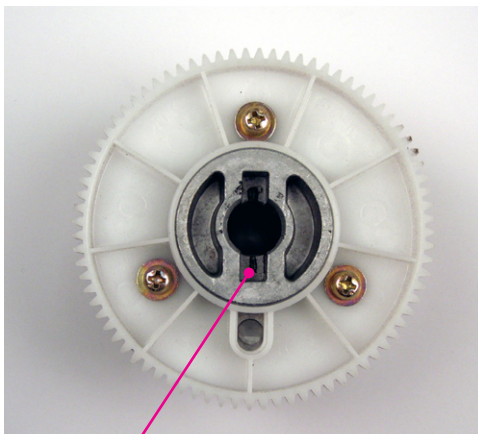


0312

Main motor pulley assembly

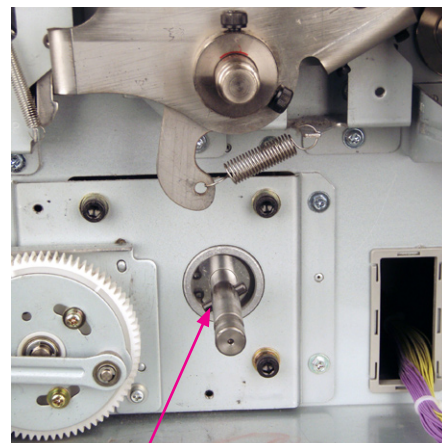
< Precaution in assembly >

Align the groove made on the back of the Main motor pulley assembly against the Parallel pin on the Main motor shaft.



0314

Groove on the back of the Main motor pulley.



0315

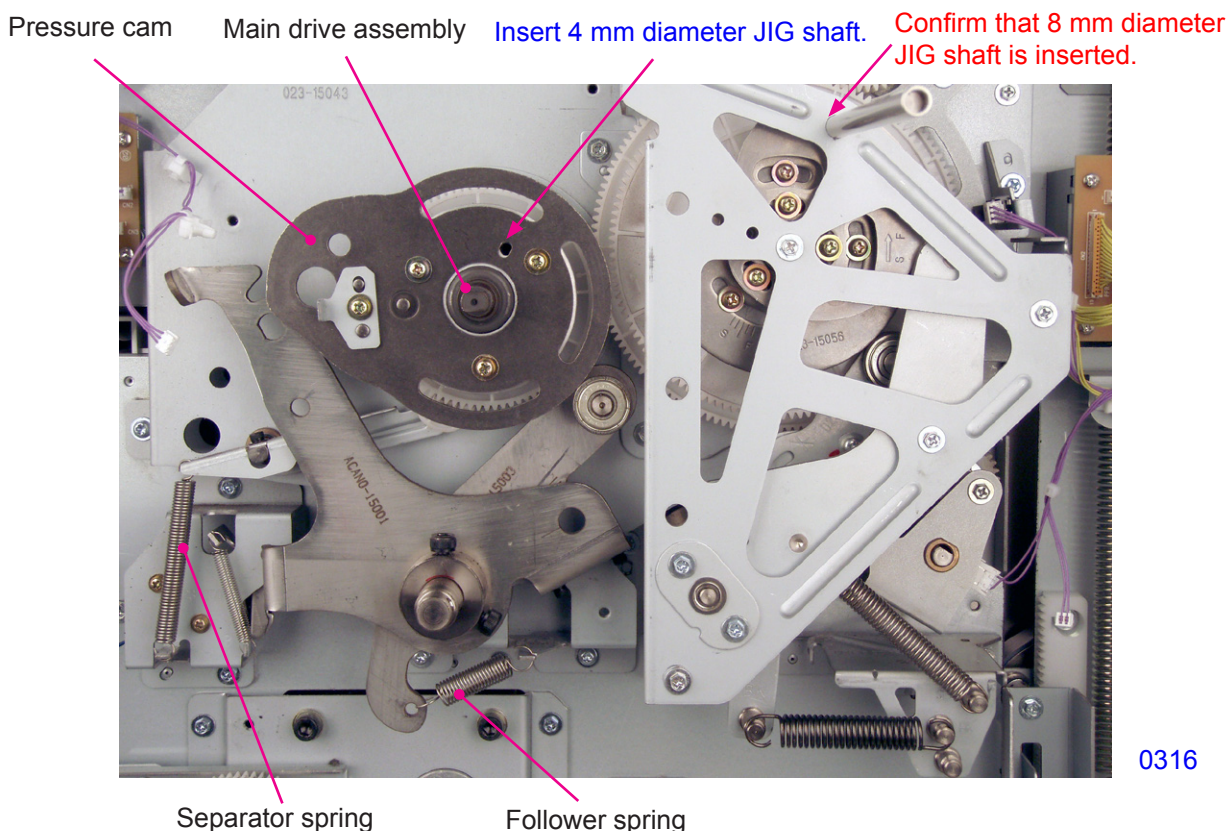
Parallel pin on the Main motor shaft.

4. Removing the Main Drive Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

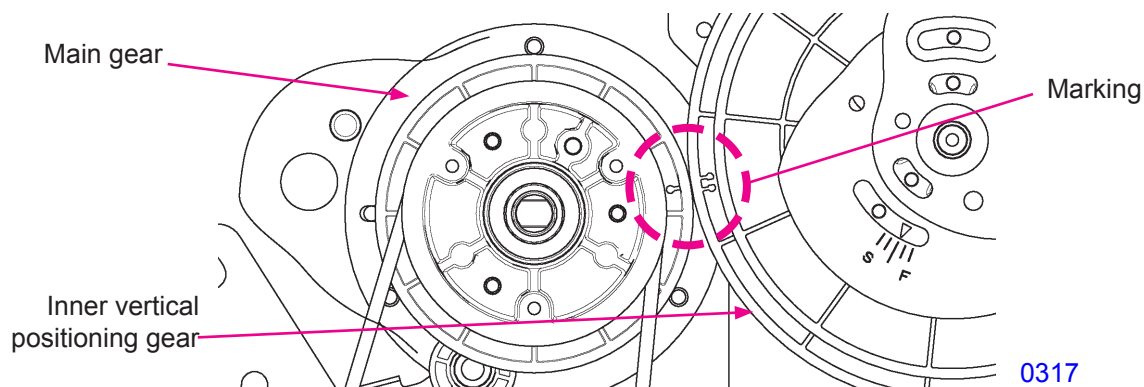
- (1) Remove Print drum from the machine.
- (2) Insert 8 mm diameter x 160 mm long JIG shaft in the Position-B phase alignment hole on the Paper feed timing area.
- (3) Remove the Main belt from the machine (Refer to page No. 3-7).
- (4) Remove both the Separator spring and Follower spring.
- (5) Remove the Main drive assembly.

<In assembly, insert 4 mm diameter JIG shaft through the Pressure cam to mount the cam onto the Main drive assembly if the Pressure cam is removed from the Main drive assembly.>



< Precaution in assembly >

In attaching the Main shaft assembly back on the machine, first insert the 8 mm diameter x 160 mm JIG shaft in the paper feed drive area to fix the gears at Position-B, and then mount the Main drive assembly back on the machine while aligning the markings between the Main gear and the Inner vertical positioning gear.



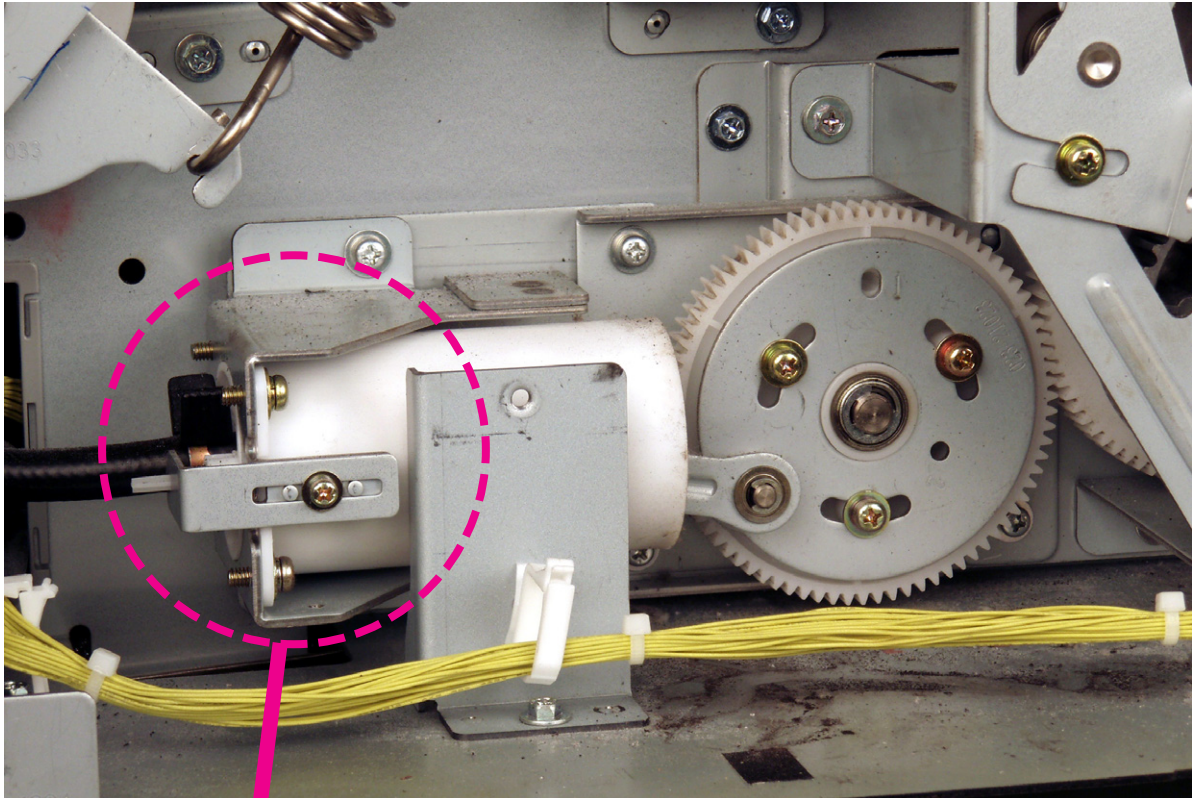
5. Removing the Separation pump unit and its disassembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

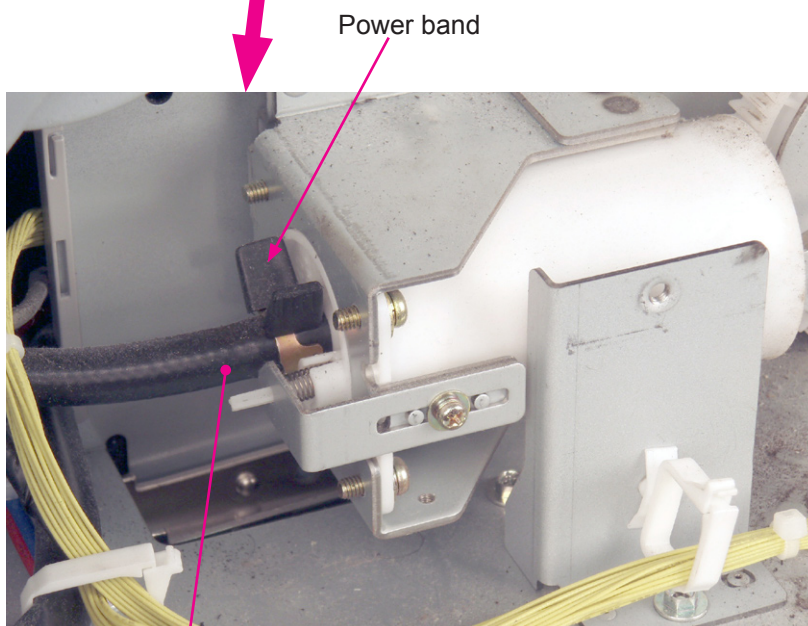
Separation pump unit

- (1) Remove the Pressure spring (refer to page No. 3-6).
- (2) Remove the Separation pump unit by removing screws (M4 x 8 screw; 5 pcs).
- (3) Pinch and slide the Power band, and unplug the Air hose from the Separation pump unit.

<Precaution in assembly continues on next page.>



0318

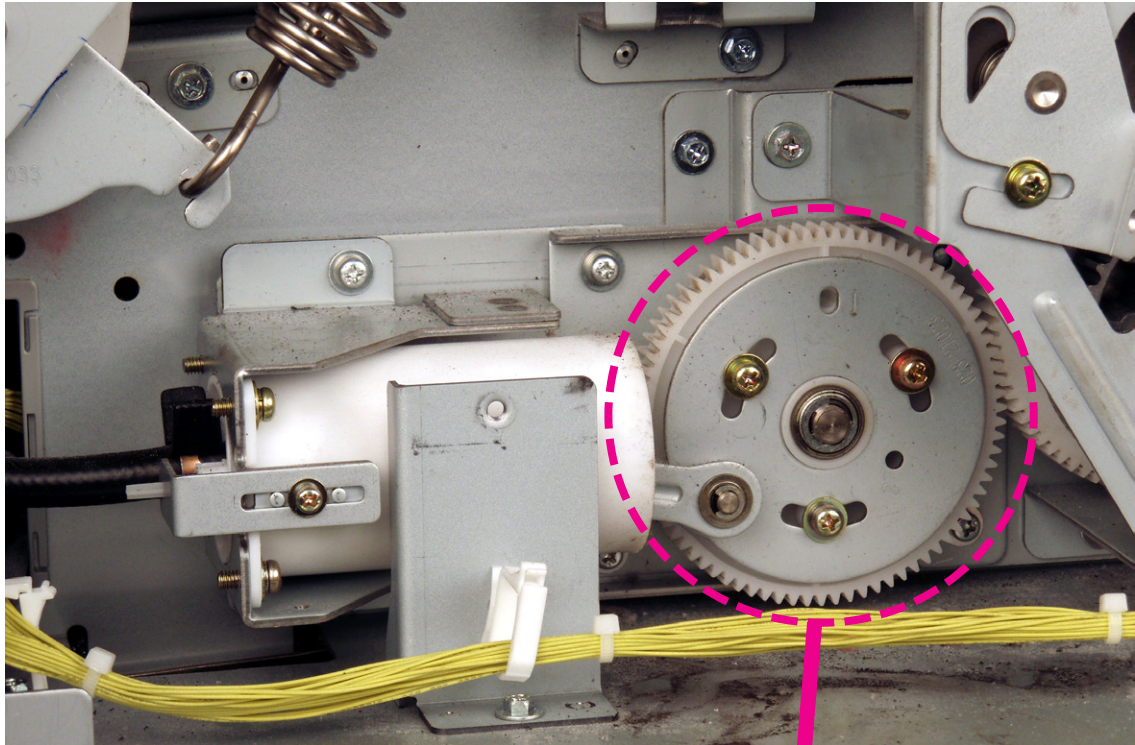


0310

Air hose

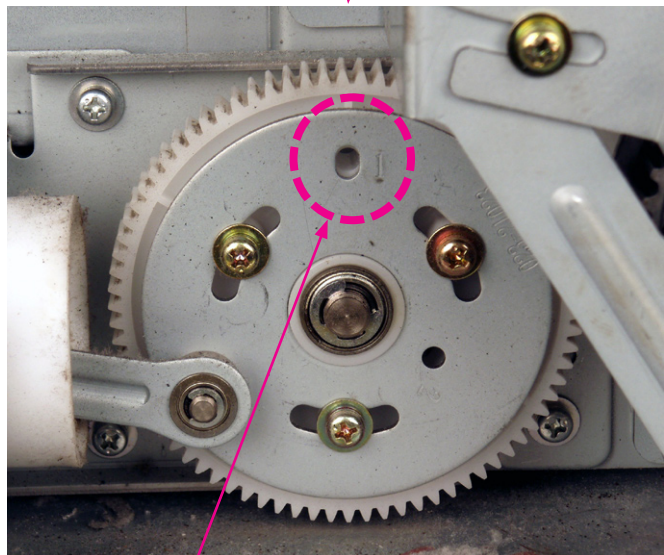
< Precaution in assembly >

- The Separation pump unit should be mounted back on the machine with the marking (elongated hole) at the position shown on the bottom photograph when the machine drive is at Position-B.
- The Separation pump unit gear should be pushed lightly against the Main motor pulley. (This is because there is a slight horizontal play in the Separation pump unit mounting position.)



< Separation Pump Unit >

0318



Positioning marking (elongated hole) on the Separation pump unit gear.

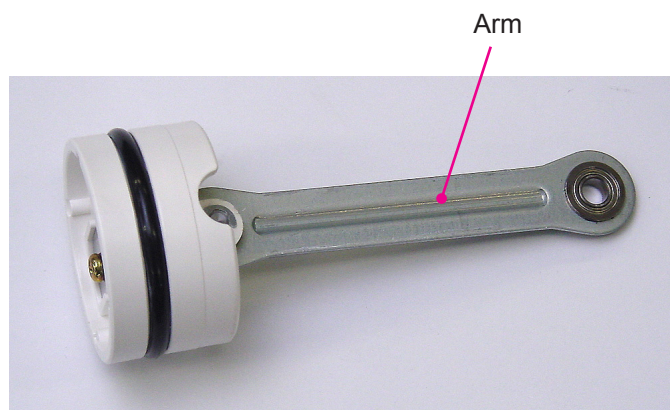
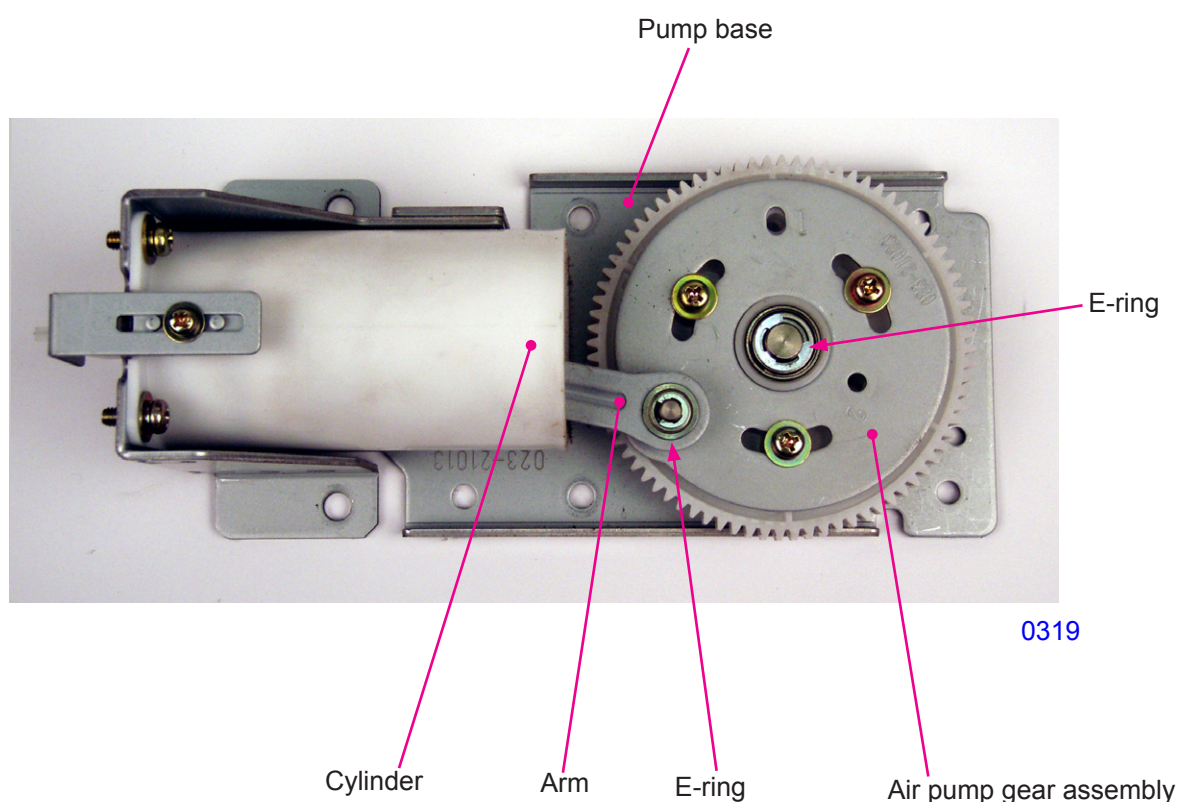
0313

Piston assembly on the Separation pump unit

<Piston assembly on the Separation pump unit can be removed with the pump unit on the machine.>

- (1) Turn OFF the machine power, remove the Rear cover, and swing open the Power supply unit and Mechanical control PCB bracket.
- (2) Remove E-ring and remove the Arm from Air pump gear assembly shaft.
- (3) Rotate the Piston assembly 90 degrees and pull the Piston to the edge of the Cylinder.
- (4) Remove the Air pump gear assembly from the unit by removing E-ring.
- (5) Pull the Piston assembly out from the Cylinder.

<Precaution in assembly continues on next page.>



< Piston Assembly >

0320

< Precaution in assembly >

- The concave side of the groove on the Arm of the Piston should face out when inserting the Piston into the Cylinder.
- Air pump gear assembly should be mounted on the unit with the machine in Position-B, and the Positioning marking (elongated hole) on the Separation pump unit gear should meet with the marking on the Separation pump unit bracket (refer to page No. 3-12).

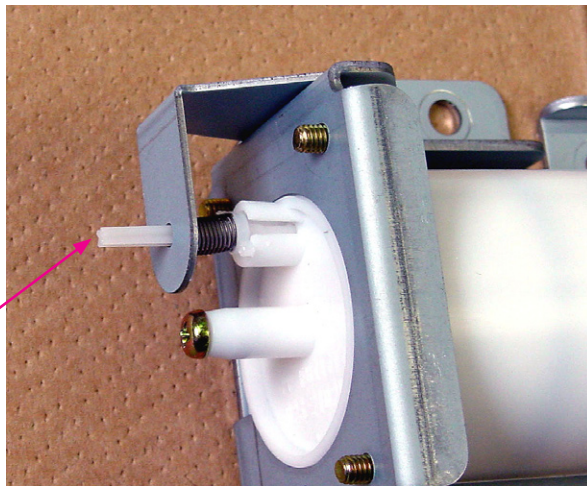
Cylinder

- (6) Remove mounting screws (M4 x 8 screw; 5 pcs) and remove the Pump base.
- (7) Remove mounting screws (M4 x 8 screw; 4 pcs) and remove the Cylinder.

Caution:

Air release valve and Spring will come loose from the Cylinder. Pay caution not to lose these items.

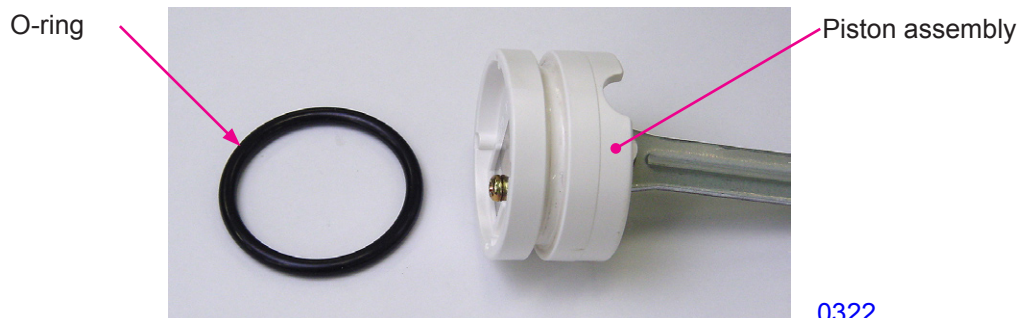
Pulling on the Air release valve and rotating it will allow the air to escape and assist the Piston to slide smoothly in removal and assembly.



0321

O-ring

- (6) Remove the O-ring from the Piston assembly.



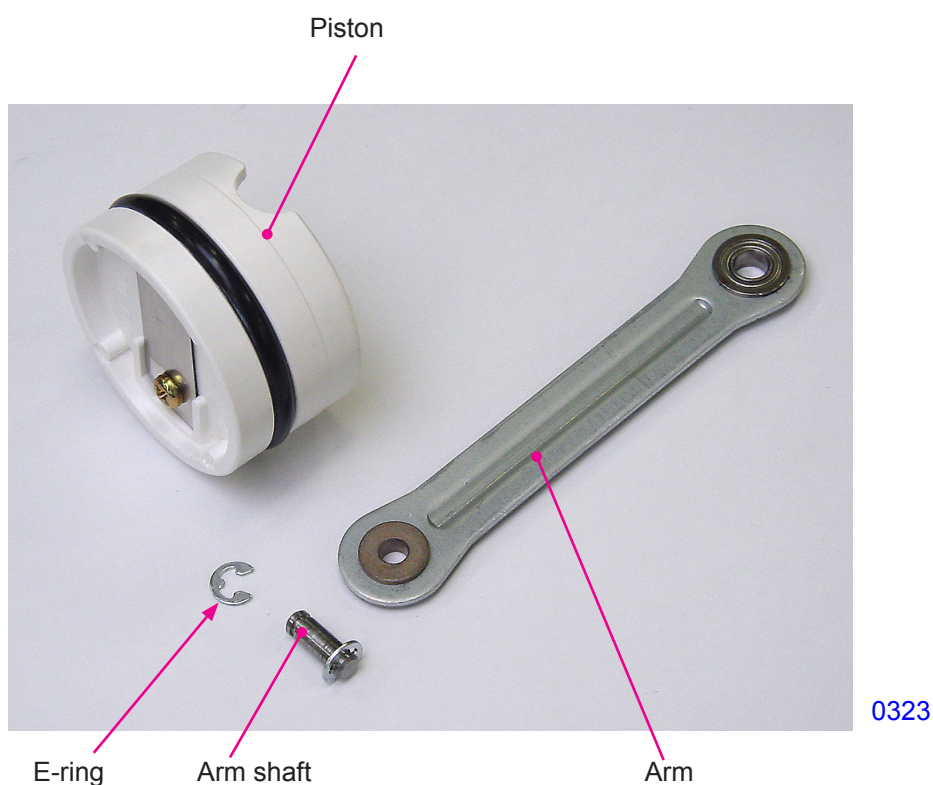
0322

< Precaution in assembly >

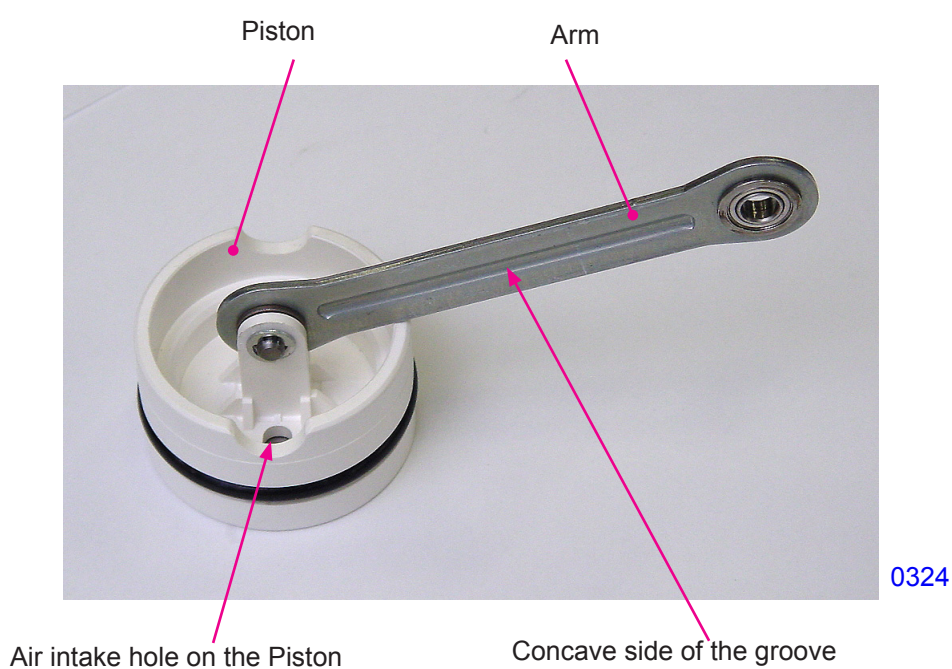
- Apply white grease onto the O-ring for lubrication.

Piston

(6) Remove E-ring, disconnect the Arm and remove the Piston.

**< Precaution in assembly >**

- Apply white grease for lubrication.
- The concave side of the groove on the Arm should face toward the Air intake hole on the Piston.

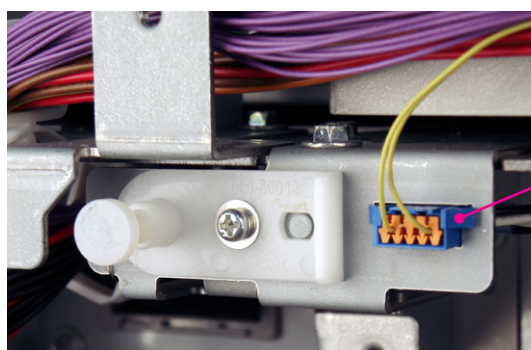


6. Removing the Rear cover safety switch

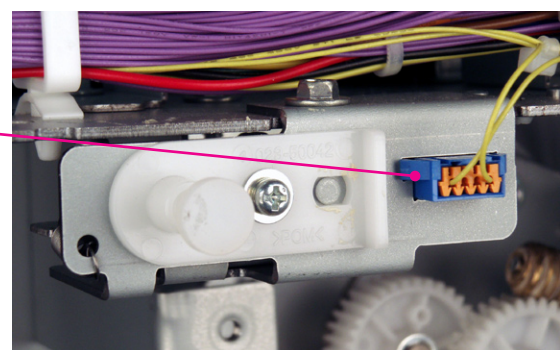
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

< Two Rear cover safety switches are used on the machine.>

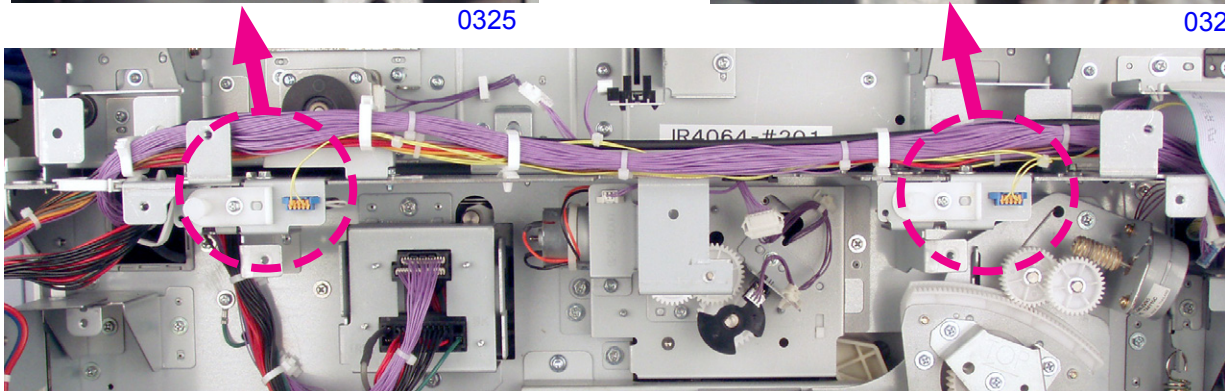
- (1) Turn OFF the machine power, remove Rear cover and Scanner cover (rear).
- (2) Unplug the connectors to the Rear cover safety switches.
- (3) Remove mounting screws (M4 x 8 screw; 1 pc each) and remove the Rear cover safety switch assembly.
- (4) Remove the Rear cover safety switch, together with the mounting bracket, from the assembly by unhooking the Spring and removing Shoulder screws (1 pc each).



0325



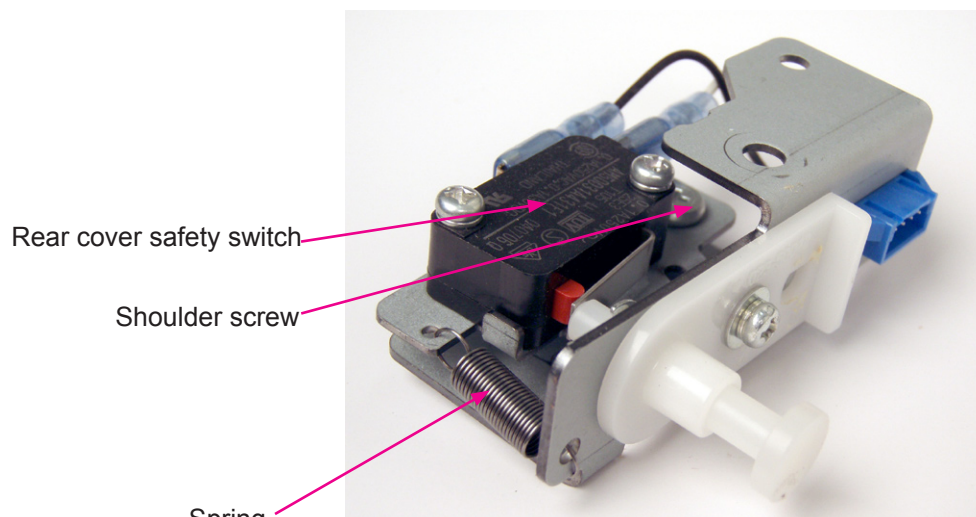
0326



< Paper Receive Side >

< Paper Feed Side >

0327



0328

< Rear Cover Safety Switch Assembly >

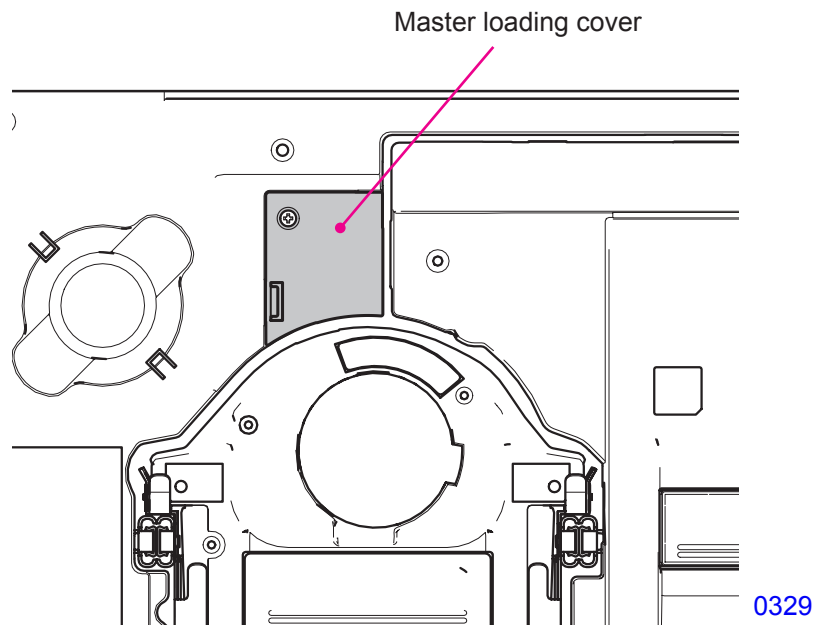
Adjustment

1. Print Drum <Position-A> Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Open the front door.
- (2) Remove screw (M4 x 8 screw; 1 pc) to remove the Master loading cover.
- (3) Activate Test mode, and run Test Mode No. 881 (Position-A stop) to rotate and stop the Print drum at <Position-A>.
- (4) Run Test Mode No. 884 (Clamp 3-step movement) to confirm that when the Position-A compensator arm comes down on the print drum on the 2nd of the 3 steps of the test mode, the Print drum rotates back a distance of 3 mm maximum or stays still, looking at the Print drum through the opening from which the Master loading cover was removed.
- (5) If Position-A of the Print drum is not within the above specified position, run Test Mode No. 941 (Print drum position-A adjustment) to adjust the <Position-A> of the Print drum.
- (6) Repeat from step (3) until the Print drum Position-A is correctly adjusted.



2. Print Drum <Position-B> Stop Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Open the Front door and press the green colored Print drum release button.
- (2) Confirm that the Print drum slides out of the machine smoothly when pulled out by hand.
- (3) If the Print drum does not come out smoothly, run Test Mode No. 942 (Print drum Position-B Adjustment) to adjust the Print drum <Position-B> stop position.
- (4) Repeat from step (1) until the Print drum <Position-B> stop position is correctly adjusted.

MEMO

CHAPTER 4: FIRST PAPER FEED SECTION

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Mechanism

1. Paper Feed Tray Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Detects paper placed on the Paper Feed Tray

The presence of the paper in the Paper feed tray is detected by the Paper detection sensor.

Print Paper Size detection

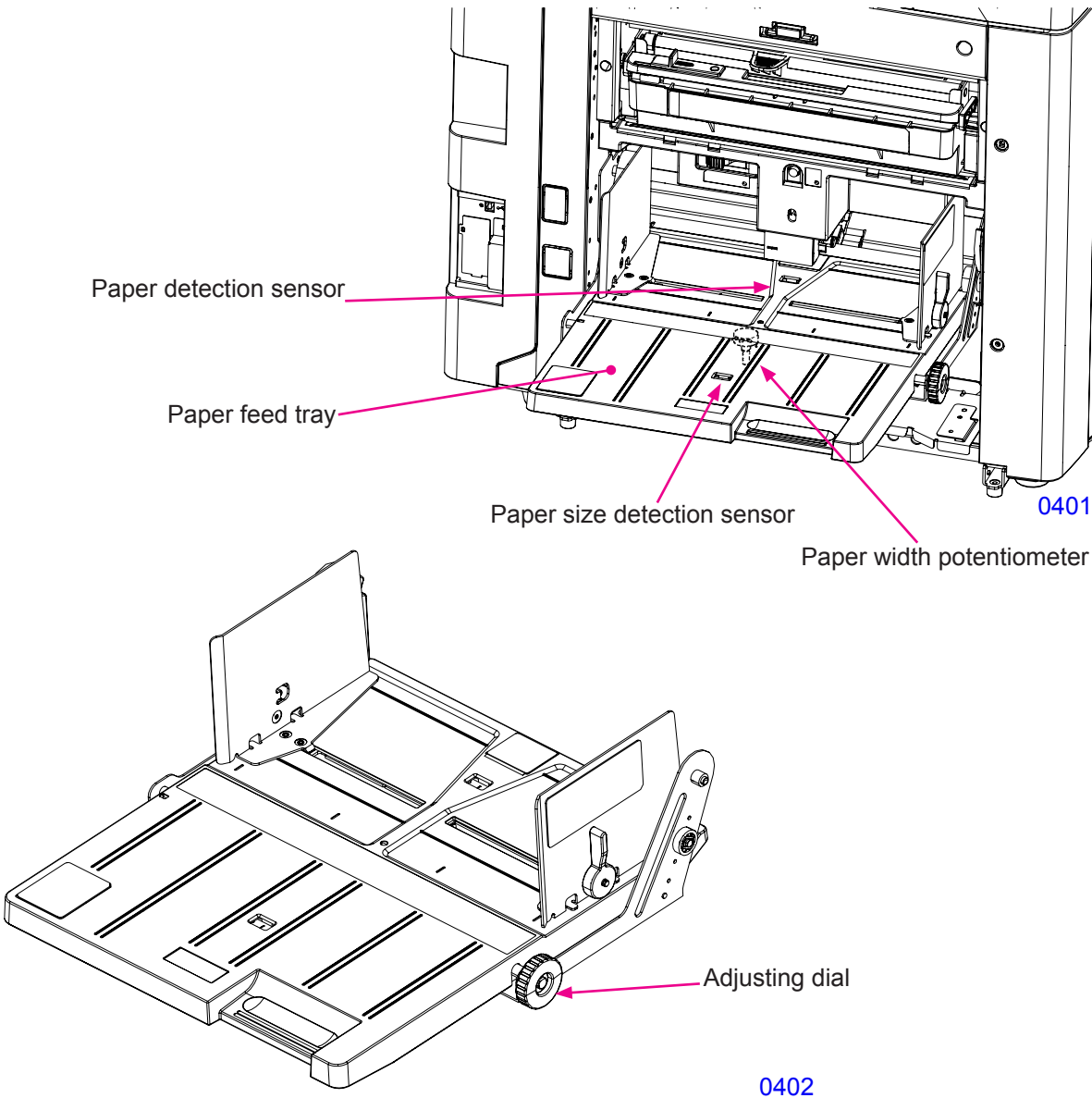
The Paper feed tray is equipped with a paper width potentiometer and a Paper size detection sensor to determine the size of paper placed in the Paper feed tray.

The paper width potentiometer detects the paper width, while the paper size detection sensor identifies the paper length (whether positioned vertically or horizontally).

Horizontal positioning (horizontal print positioning) of the paper tray

The horizontal printing position can be changed by changing the position of the paper on the Paper feed tray against the Print drum position.

The Paper feed tray position can be changed horizontally by turning the Adjusting dial by hand.



2. Paper Feed Tray Elevation Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	#	#

* No Upper limit sensor A on EZ2 and all the EV Series.

* No Paper feed pressure sensor on EZ2 & EV2.

Paper Feed Tray Elevation (Moving Upward)

The Paper feed tray is elevated up or down by the Elevator motor.

With the paper detected on the Paper feed tray, and the Start key is pressed for a print job, the Elevator motor elevates the paper feed tray up to the upper limit position which is detected by either of the two Upper limit sensors, A or B. (Refer to page 4-4)

During the printing operation, the Elevator motor keeps switching ON and OFF, to elevate the Paper feed tray, keeping the upper most paper stock height on the Paper feed tray at a constant height to ensure good paper feeding. This action is call as [Elevator Servo System].

Paper Feed Tray Elevation (Moving Downward)

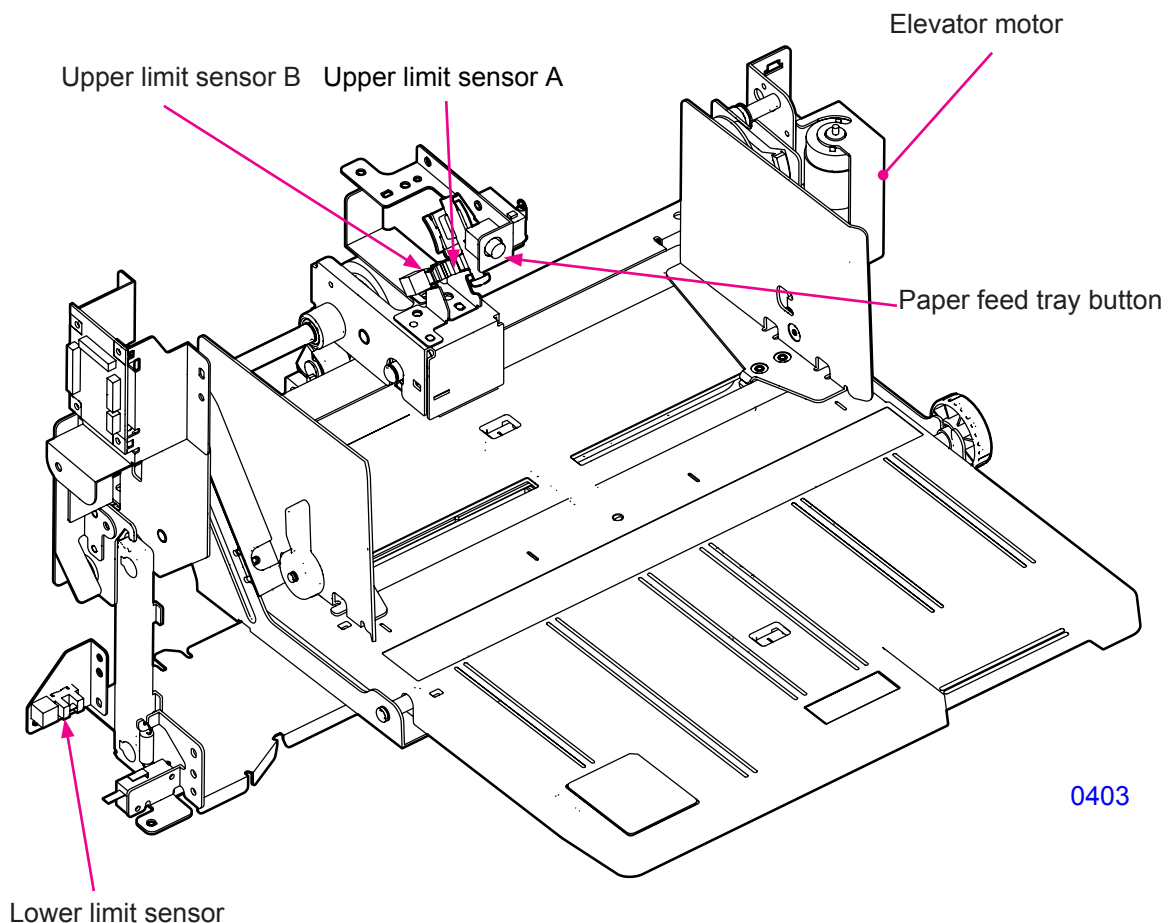
When the paper runs out empty from the Paper feed tray, the Paper feed tray comes all the way down to the lower limit position. The lower limit position is detected by the Lower limit sensor.

Paper Feed Tray Button

When the machine is in idle state, the Paper feed tray can be lowered manually by pressing the green colored Paper feed tray button.

The tray stops when the finger is released from the button or when the Paper feed tray is detected by the Lower limit sensor.

When the Paper feed tray is at the lower limit position with paper on the tray, pressing the Paper feed tray button elevates the tray up.

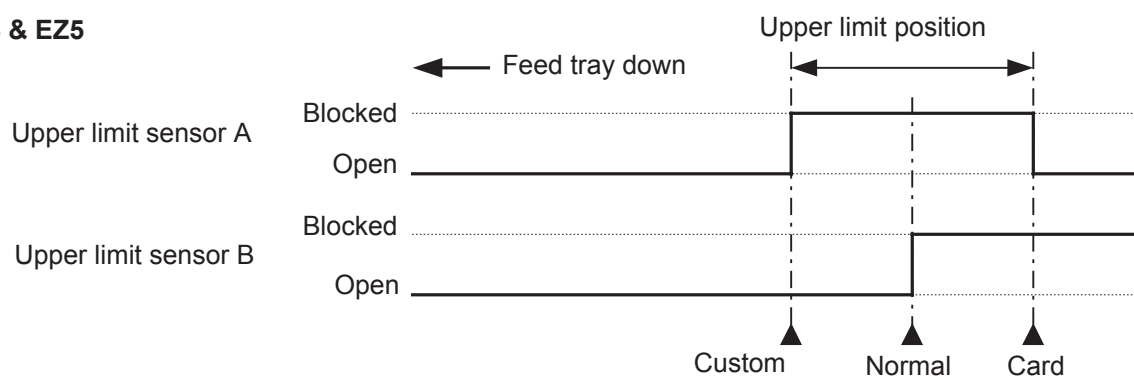


Upper-limit Position of the Paper Feed Tray

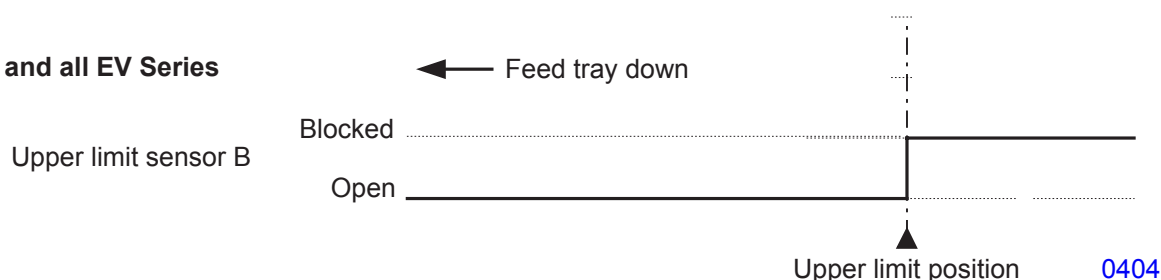
3 kinds of Upper limit positions

There are two elevator Upper-limit sensors, A and B. The Upper-limit sensor B is paired with the upper-limit detecting plate (normal), while the Upper-limit sensor A is paired with the upper-limit detecting plate (card). From the various combination of these two upper-limit sensor detections, three Paper feed tray upper-limit positions are possible, as shown in the diagram below.

EZ3 & EZ5



EZ2 and all EV Series



Selecting the upper limit position by Test Mode 0740

By selecting [Auto], the default setting, in Test Mode No. 0740 (Elevator upper-limit position selection) makes it possible to adjust the Paper feed tray upper-limit position using the Paper feed pressure lever. Selecting settings other than [Auto] by this test mode elevates the Paper feed tray to the specified upper limit position, which are Card, Normal or Custom position. Card being the highest position and Custom being the lowest position of the three.

Engaging with the Paper Feed Pressure Lever

When [Auto] is selected by Test Mode No. 0740, setting the Paper feed pressure lever to <Normal> sets the upper-limit position of the Paper feed tray to the normal position.

Setting the Paper feed pressure lever to <Card> sets the upper-limit position of the Paper feed tray to the CARD position.

Selecting the upper limit position by the User Mode: (Paper Feed Adjustment in the Function tab.)

Selecting the Paper feed tray upper-limit position to <0> using the [Manual] adjustment, in the Paper Feed Adjustment within the Function tab of the operation panel, stops the Paper feed tray at the NORMAL position. Selecting this to <+1> stops the Paper feed tray at the Card position. Selecting <-1> stops the paper feed tray at the CUSTOM position.

Custom upper limit position adjustment	Paper Type		Adjustable Value			Remarks
			Name of adjustment	Test Mode	Adjustable Range	
Automatic adjustment	Normal	Paper feed pressure adjustment lever	Upper limit position selection	0740	(0): Automatic (Follow by Paper feed pressure lever) <Default> (1): Normal Paper (Paper feed pressure-Normal) (2): Card Paper (Paper feed pressure-Higher) (3): Custom Paper (Paper feed pressure-Lower)	
	Card					
Manual adjustment	Custom		Upper limit position		(-1): Normal Paper (Paper feed pressure-Normal) (0): Card Paper (Paper feed pressure-High) <Default> (+1): Custom Paper (Paper feed pressure-Lower)	6 patterns (A-1 to A-6) can be registered

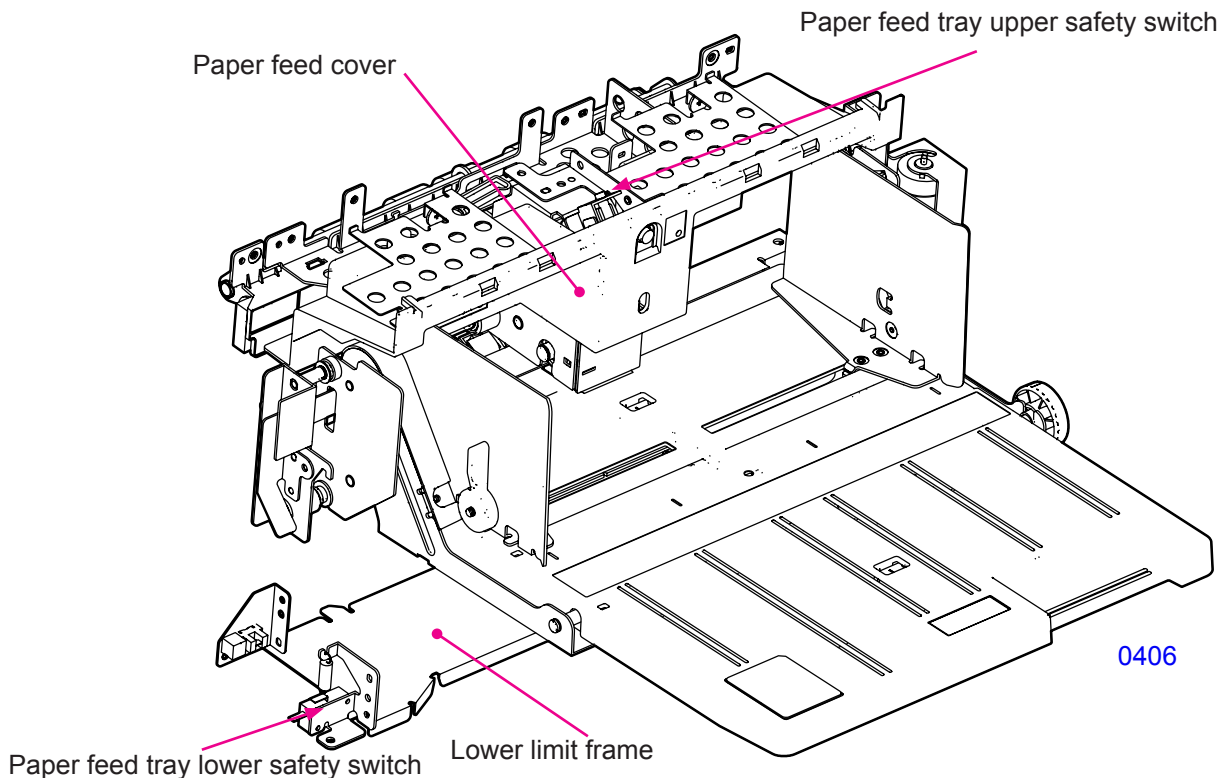
0405

3. Paper Feed Tray Safety Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

The Paper feed tray upper safety switch and the Paper feed tray lower safety switch ensure the safety while the Paper feed tray is being raised or lowered.

If the Paper feed cover is pushed up, the Paper feed tray upper safety switch goes OFF, and if the Lower limit frame is pressed down, the Paper feed tray lower safety switch goes OFF. If either one of the two safety switches goes OFF, the Elevator motor is turned off.



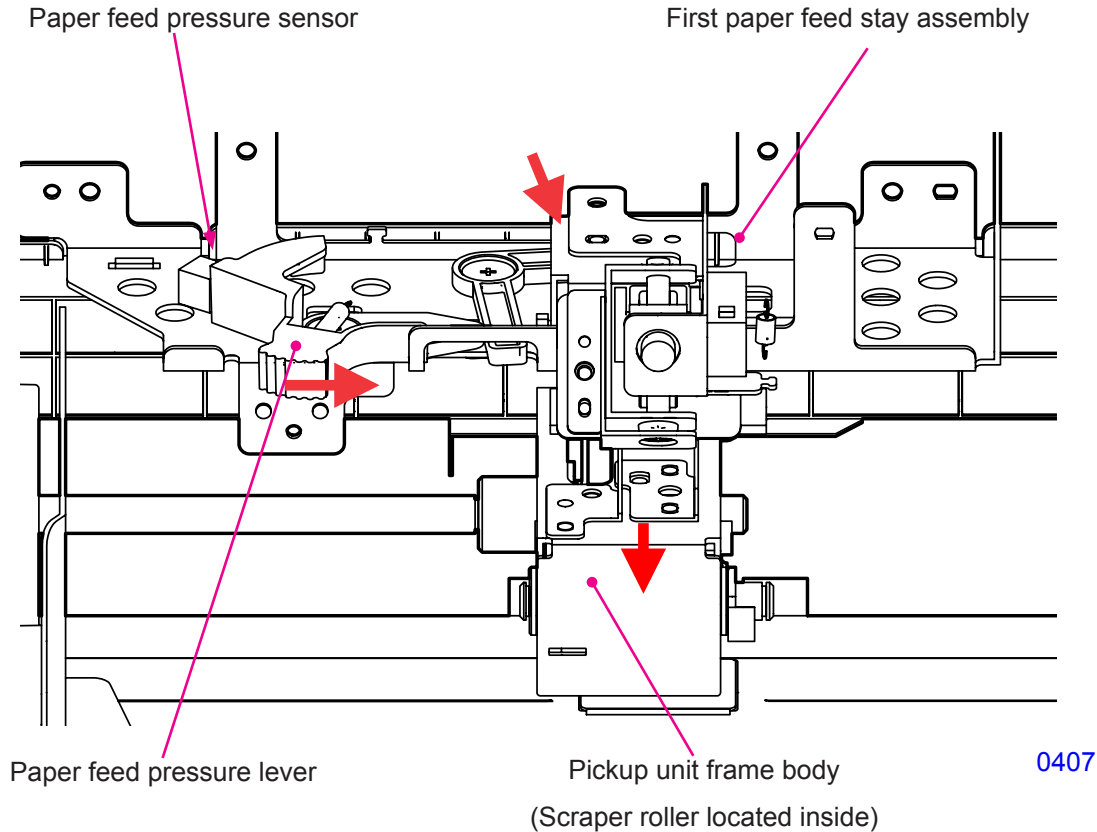
4. Paper Feed Pressure Adjustment Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	O	O

No Paper feed pressure sensor on EZ2 & EV2.

The Paper feed pressure lever is located on the left-hand side of the First paper feed stay assembly. Switching this lever either to the right or to the left adjusts the paper feed pressure (scraper pressure) between <Normal> (low) and <Card> (high). Setting the Paper feed pressure lever to the right for <Card> increases paper feed pressure (scraper pressure). The Paper feed pressure sensor checks the position of the Paper feed pressure lever and affects the following two items.

- Upper limit position of the Paper feed tray.
- Paper ejection wing position.



5. First Paper Feed Operation

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

At the start of a print job, the Main motor switches ON and rotates the Print drum.

The Paper feed clutch gear rotates continuously when the Main motor is ON.

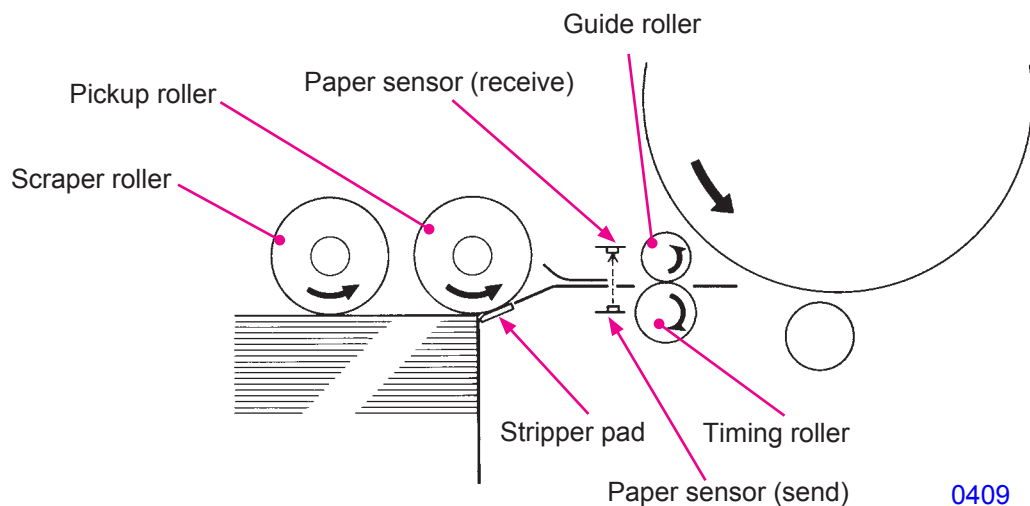
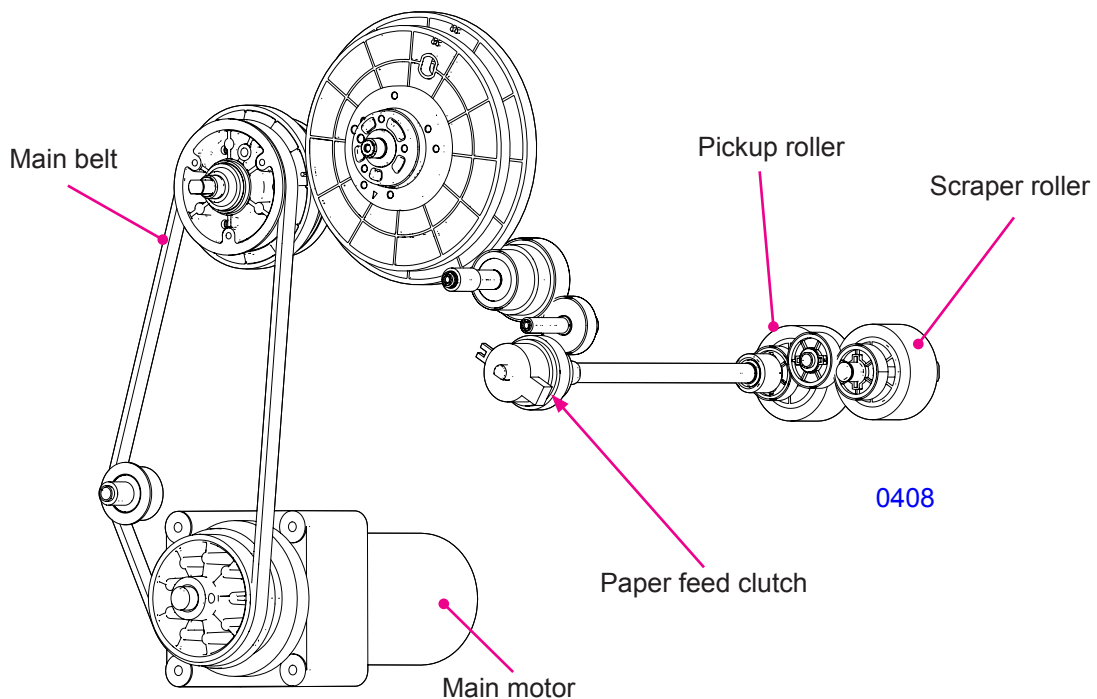
When the Print drum rotates from position-A to a certain angle, the Paper feed clutch switches ON, turning the Scraper and Pickup roller and transporting paper from the Paper feed tray into the machine.

After the paper is fed into the machine and the Paper sensor senses the light, the Paper feed clutch switches OFF, and the first paper feed operation stops.

In this process, the leading edge of the paper contacts the Guide roller and Timing roller. When paper transport stops, some buckle on the leading edge of the paper, against the Guide roller and Timing roller.

Additionally, when the Print drum rotates to the paper feed jam detection angle (paper IN jam) after the paper feed clutch switches ON, the machine checks with the Paper sensor for any no-paper-feed jam.

The Scraper and Pickup roller are equipped with one-way clutch to enable free rotation and to keep the first paper feed section from halting or slowing down the paper speed after the paper is fed to the second paper feed section.



6. ON/OFF Timing Control of Paper Feed Clutch

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	#	O	#	#	O

Custom paper feed adjustment available only on EZ5 & EV5.

The ON/OFF timing of the Paper feed clutch controls the paper transfer from the first paper feed section to the second paper feed section.

The Paper feed clutch ON/OFF control is explained as follows.

Paper Feed Clutch ON Timing Control

Angle of Paper feed clutch ON Timing = <Standard angle of Paper feed clutch ON timing> +
<Correction value-Fixed> + <Adjustment value> + <Correction value-Variable>.

<Standard angle of Paper feed clutch ON Timing>

57.1 degrees

<Correction Value-Fixed>

-5 degrees

<Adjustment Value>

Normal Paper: By operating Test Mode No. 0741

Adjustable Range from -20 degrees to +20 degrees

Card Paper: By operating Test Mode No. 0745

Adjustable Range from -20 degrees to +20 degrees

<Correction Value-Variable>

Vertical Print Position Correction:

Correction Value = Vertical Print Position (mm) x 0.6623

Chart 1

Custom upper limit position adjustment	Paper Type		Paper feed clutch ON standard angle	Correction value (Fixed)	Adjustment Value			Correction value (Variable)	Remarks
					Name of adjustment	Test Mode	Adjustable Range		
Automatic adjustment	Normal	Paper feed pressure lever	(57.1 degrees)		Paper feed clutch ON angle adjustment	0741	(-20 to +20 degrees)	Vertical print position correction (degrees) [Vertical print position (mm) x 0.6623]	
	Card			(-5 degrees)	Paper feed clutch ON angle adjustment (Card)	0745			
Manual adjustment	Custom					Paper feed clutch ON timing			

0410

Paper Feed Clutch OFF Timing Control

Angle of Paper feed clutch OFF Timing = <Standard Angle of Paper feed clutch OFF Timing> +
 <Correction value-Fixed> + <Adjustment value> + <Correction value-Variable>.

<Standard Angle of Paper feed clutch OFF Timing>
 15.2 degrees

<Correction Value-Fixed>
 +5 degrees

<Adjustment Value>

Normal Paper: By operating Test Mode No. 0742

Adjustable Range from -20 degrees to +20 degrees

Card Paper: By operating Test Mode No. 0744

Adjustable Range from -20 degrees to +20 degrees

<Correction Value-Variable>
 Refer to chart 3 for the detail.

Chart 2

Custom upper limit position adjustment	Paper Type		Paper feed clutch OFF standard angle	Correction value (Fixed)	Adjustment Value			Correction value (Variable)	Remarks
					Name of adjustment	Test Mode	Adjustable Range		
Automatic adjustment	Normal	Paper feed pressure lever	(15.2 degrees)		Paper feed clutch OFF angle adjustment	0742	(-20 to +20 degrees)	Paper feed clutch OFF (Refer to chart 3 shown below.)	
	Card			(+5 degrees)	Paper feed clutch OFF angle adjustment (Card)	0744			
Manual adjustment	Custom					Paper feed clutch OFF timing			

0411

Chart 3

Print Speed	Correction Value (degrees)	Print Speed	Correction Value (degrees)	Print Speed	Correction Value (degrees)
10 rpm	(0)	70 rpm	(-2.5)	130 rpm	(-8.0)
20 rpm	(-0.5)	80 rpm	(-3.5)		
30 rpm	(-0.5)	90 rpm	(-4.0)		
40 rpm	(-1.0)	100 rpm	(-5.0)		
50 rpm	(-1.5)	110 rpm	(-6.0)		
60 rpm	(-2.0)	120 rpm	(-7.0)		

0412

Custom Paper Feed Adjustment (from the Function tab of the operation panel)

< Not available on EZ2 and EZ3 >

From the Function tab of the LCD display, chose the Paper Feed Adj. button and open the paper adjustment screen.

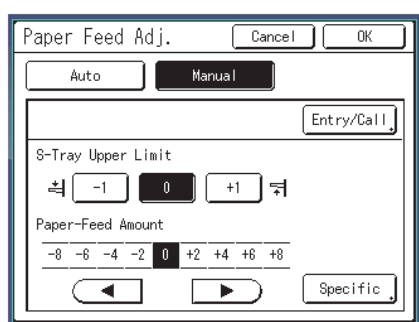
By selecting the Manual button, the screen shown as Fig.1, below, appears. The Paper feed tray upper limit position and paper buckle amount can be adjusted.

By pressing the Specific button at the bottom-right-hand-corner of the screen (Fig.1), the screen changes (ref: Fig.2). The Fig.2 screen has the adjustment values for the Paper feed clutch ON and OFF timing adjustment.

Press OK button after making the adjustment. The screen changes to as shown by Fig.3. The adjusted values are registered, up to six, by using the <A-1> to <A-6> buttons, as shown on Fig.3.

In printing operation, by recalling one specific button from <A-1> to <A-6>, the selected paper feed adjustment setting is applied on the printing job.

By press Manual button in the Fig.1 followed by OK button in the Fig.2, regardless of with or without changing the adjustment value or recalling registered value, the adjustment values show on Fig.1 and Fig.2 will be maintain until the machine power is turned OFF.

Fig. 1

0413

Adjustments made by the Fig. 1 Screen

< Paper feed tray upper limit position >

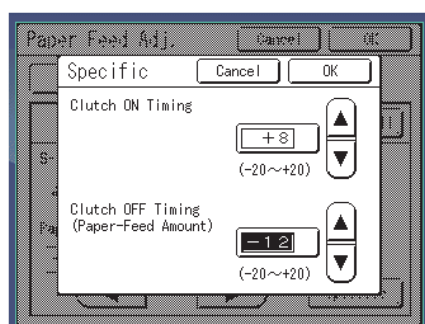
Selects the stop position of the Paper feed tray.

- + 1 : Card paper position
- 0 : Standard paper position
- 1 : Custom paper position

< Paper buckle amount >

Selects the Paper feed clutch OFF timing in regard to the pre-programmed print drum angle.

Adjustable range: - 8 degrees to + 8 degrees.
(Adjustable by unit of 2 degrees.)

Fig. 2

0414

Adjustments made by the Fig.2 Screen

< Paper feed clutch ON Timing >

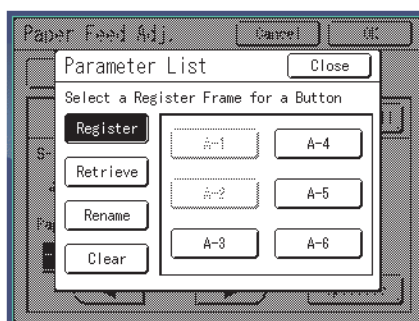
Selects the Paper feed clutch ON timing in regard to the pre-programmed print drum angle

Adjustable range: - 20 degrees to + 20 degrees.
(Adjustable by unit of 1 degree.)

< Paper feed clutch OFF Timing >

Selects the Paper feed clutch OFF timing in regard to the pre-programmed print drum angle

Adjustable range: - 20 degrees to + 20 degrees.
(Adjustable by unit of 1 degree.)

Fig. 3

0415

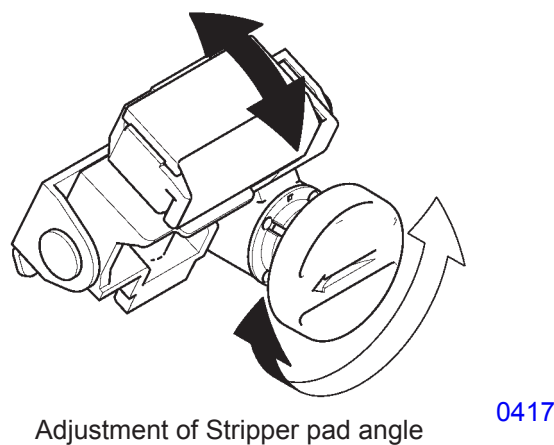
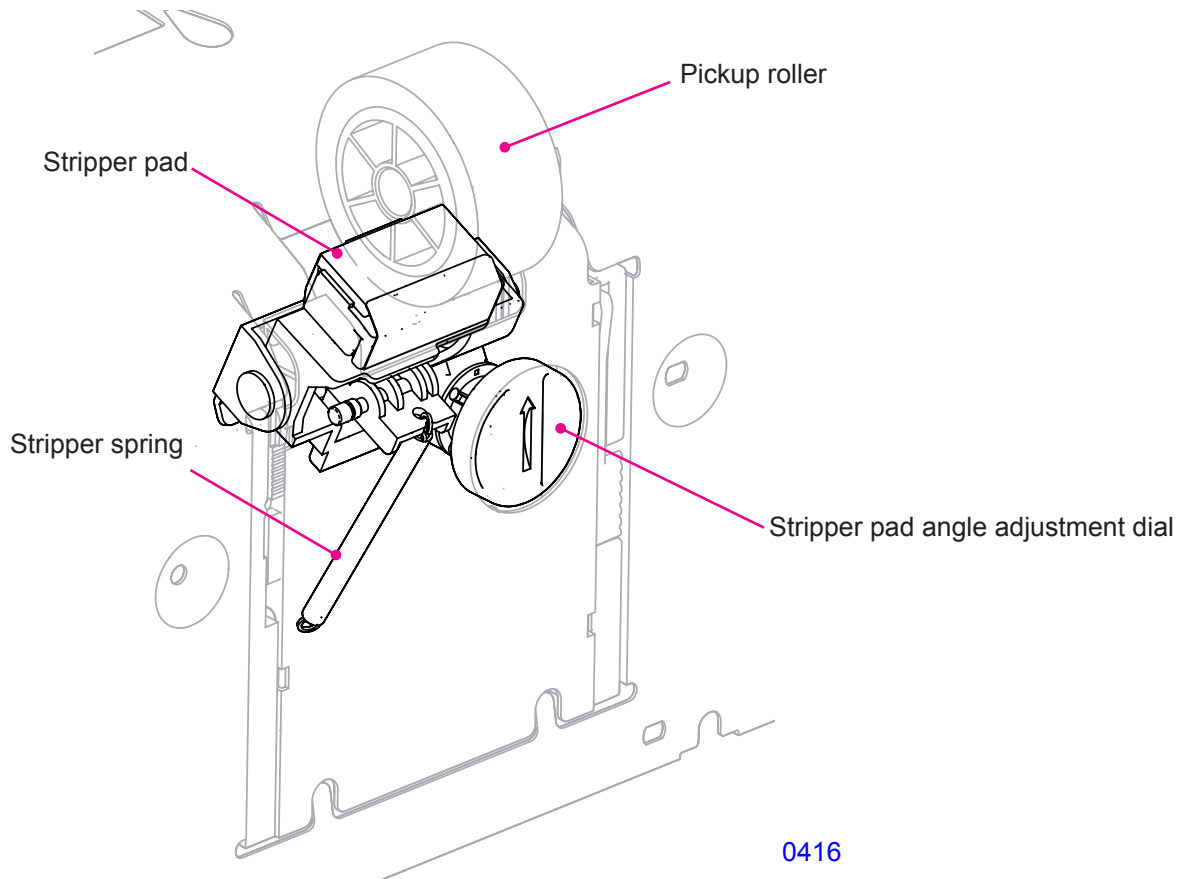
7. Paper Stripping Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

The Scraper and Pickup roller rotate to transport paper from the Paper feed tray to the Stripper pad. The Pickup roller and the Stripper pad transport only the uppermost sheet into the machine.

The Stripper pad is pressed against the Pickup roller by the Stripper spring, which applies resistance to the paper being transported to ensure only a single sheet of paper is fed at a time.

Use the Stripper angle adjuster to adjust the Stripper pad angle.

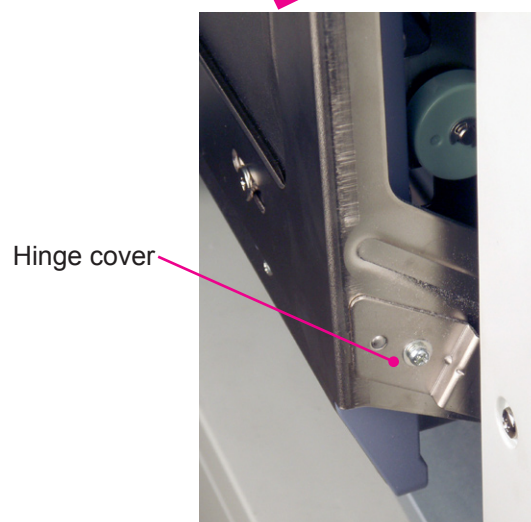
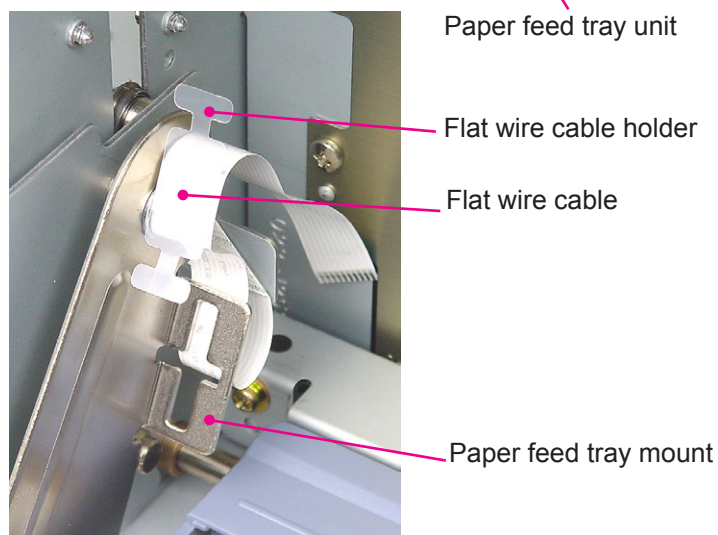
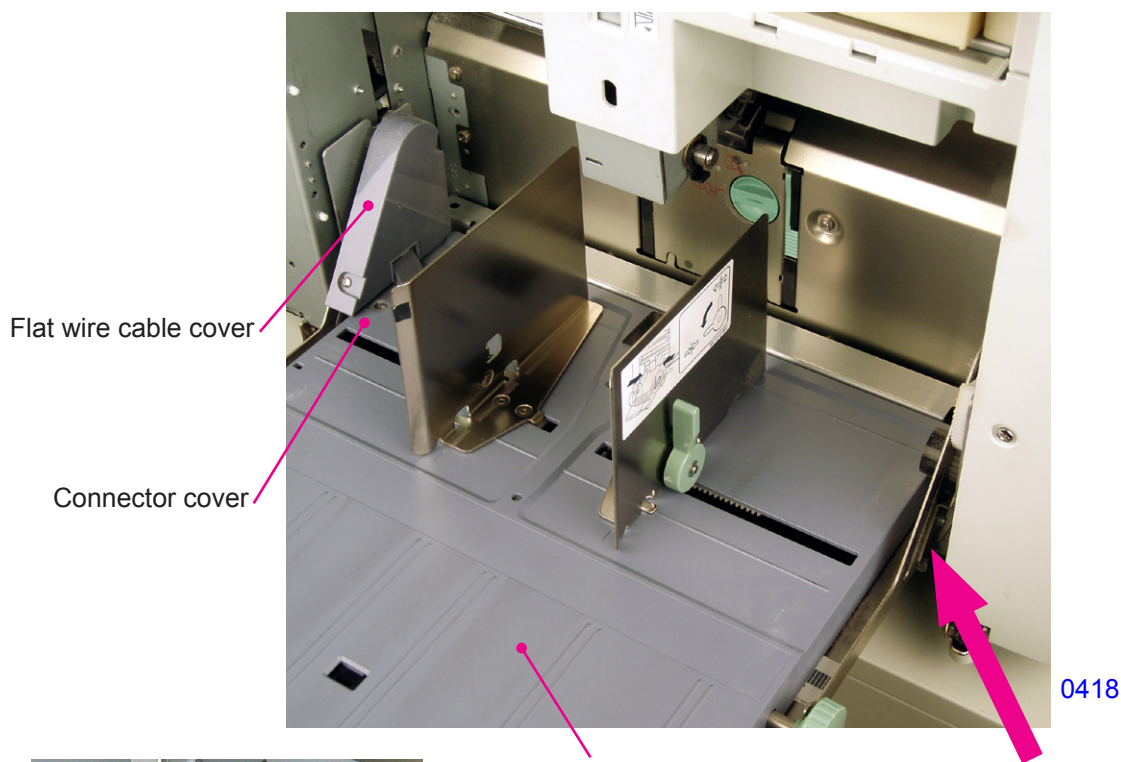


Disassembly

1. Removing the Paper Feed Tray Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Lower the Paper feed tray all the way down and switch OFF the machine power.
- (2) Close the Paper feed tray and remove the Hinge cover by removing screw (M3 x 6 screw; 1 pc).
- (3) Open the Paper feed tray and remove the Flat wire harness cover by removing screw (M3 x 5 screw; 1 pc).
- (4) Remove the Connector cover by removing screw (M3 x 5 screw; 1 pc).
- (5) Pull out the Flat wire harness from the connector and unhook the Wire harness holder from the Paper feed tray mount.
- (6) Remove E-rings (1pc each) on the left and right of the Paper feed tray unit, and remove the tray unit from the machine.



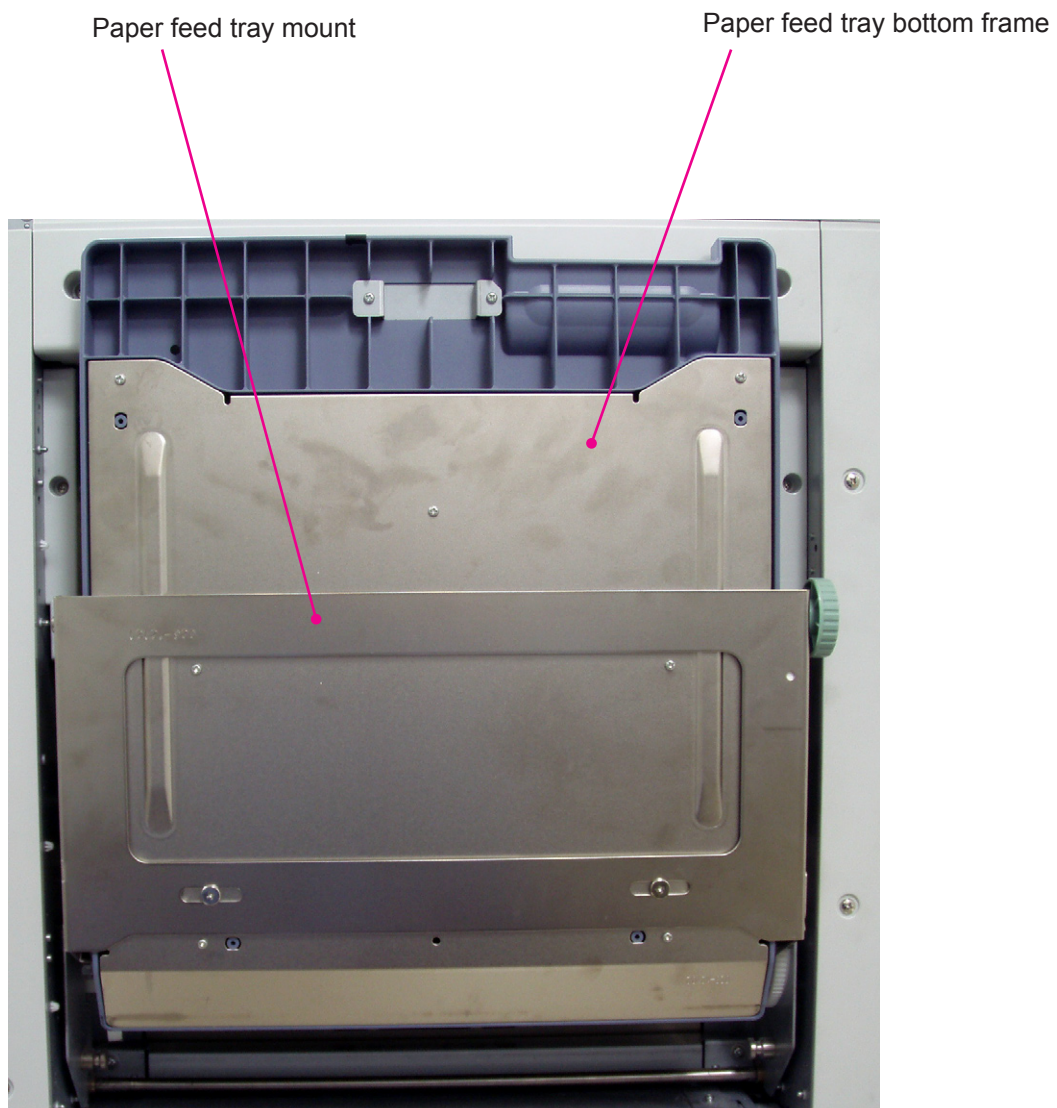
0419

0420

2. Removing the Paper Detection Sensor, Paper Size Detection Sensor and Paper Width Potentiometer

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Lower the Paper feed tray all the way down, switch OFF the power to the machine. Remove the Paper feed tray unit from the machine. (Refer to the previous page.)
- (2) Remove screws (3 x 8 screw; 7 pcs) and remove the Paper feed tray bottom frame.



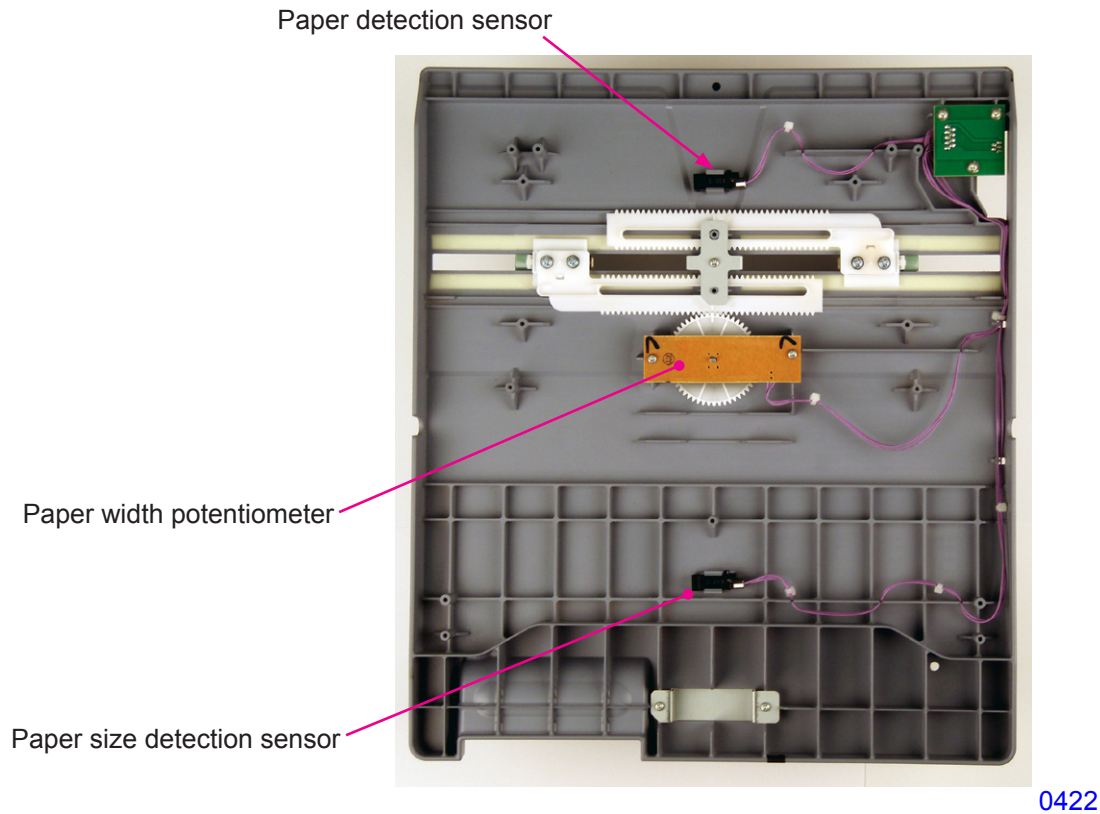
0421

Removing the Paper Detection Sensor and Paper Size Detection Sensor

(3) Unplug connectors from each sensor and unhook the craws of the sensors and remove from the tray.

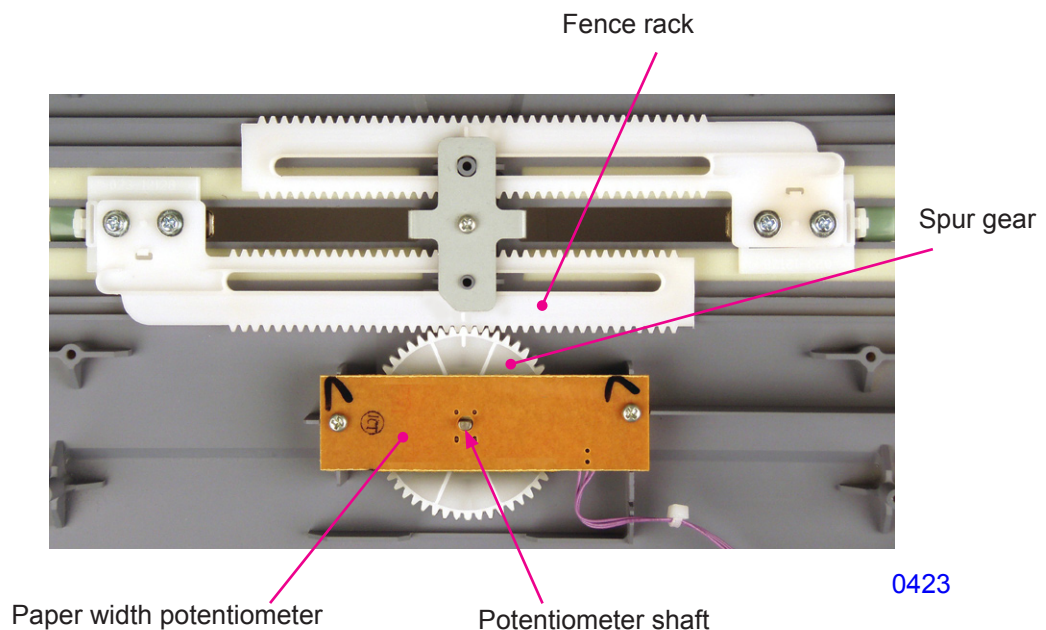
Removing the Paper Width Potentiometer

(3) Remove screws (M3 x 8 screw; 2 pcs), unplug the connector, and remove the Paper width potentiometer.



< Precaution in assembly >

Align the eye mark line on the Fence racks and Spur gear in a straight line and insert the Potentiometer shaft through the Spur gear. Screw on the Paper width potentiometer on the Paper feed tray with the flat cut on the shaft hole facing towards the eye mark line on the Spur gear. (M3 x 8 screw; 1 pc)



3. Removing the Scraper Roller and Pick Up Roller

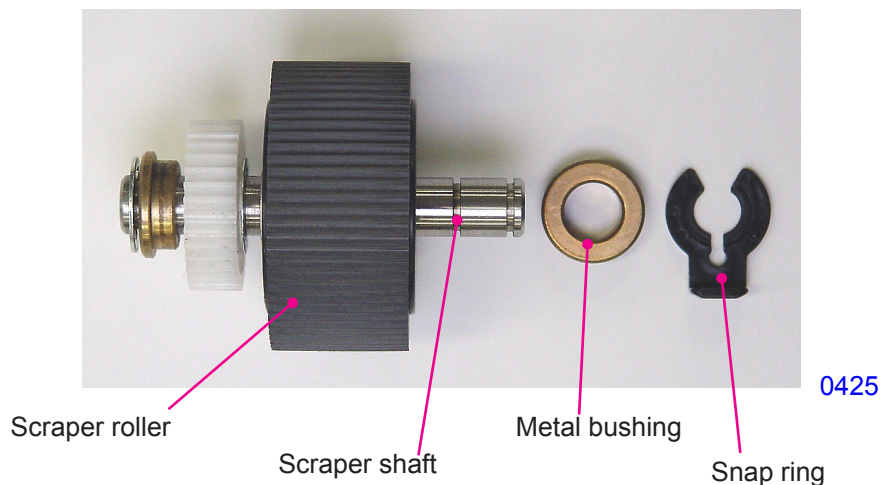
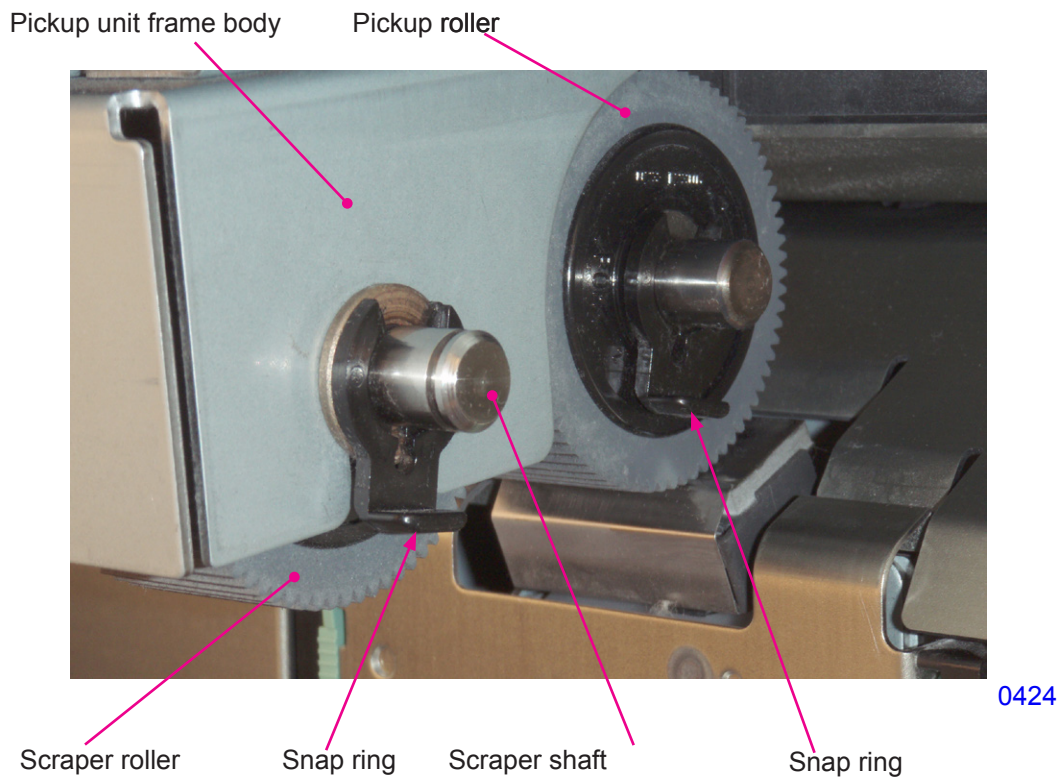
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Removing the Scraper Rollers

- (1) Lower the Paper feed tray all the way down, and switch OFF the machine power.
- (2) Remove the Snap ring from the Scraper shaft, and remove the Metal bushing in the front.
- (3) Slide the Scraper shaft to the rear and remove the Metal bushing from the Pickup unit frame body, and remove the Scraper roller together with the Scraper shaft from underneath the Pickup unit frame body.
- (4) Slide out the Scraper roller from the Scraper shaft.

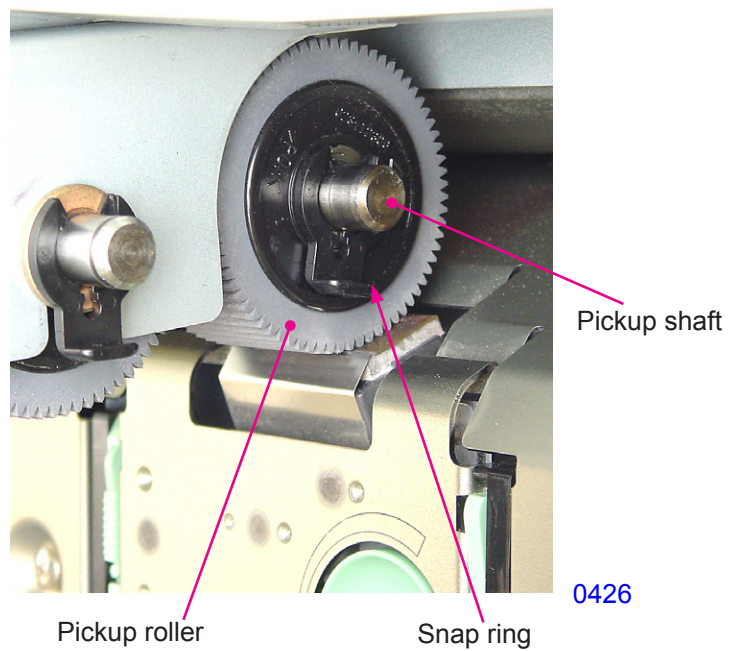
Caution:

Only the rubber wheel of the Scraper roller needs to be replaced if the roller is worn. The plastic core of the roller can be reused. This is the same with the Pickup roller.



Removing the Pickup Roller

- (1) Lower the Paper feed tray all the way down, and switch OFF the machine power.
- (2) Remove the Snap ring from the Pickup shaft.
- (3) Slide out the Pickup roller from the Pickup shaft.



4. Removing the Paper Feed Roller Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	#	#

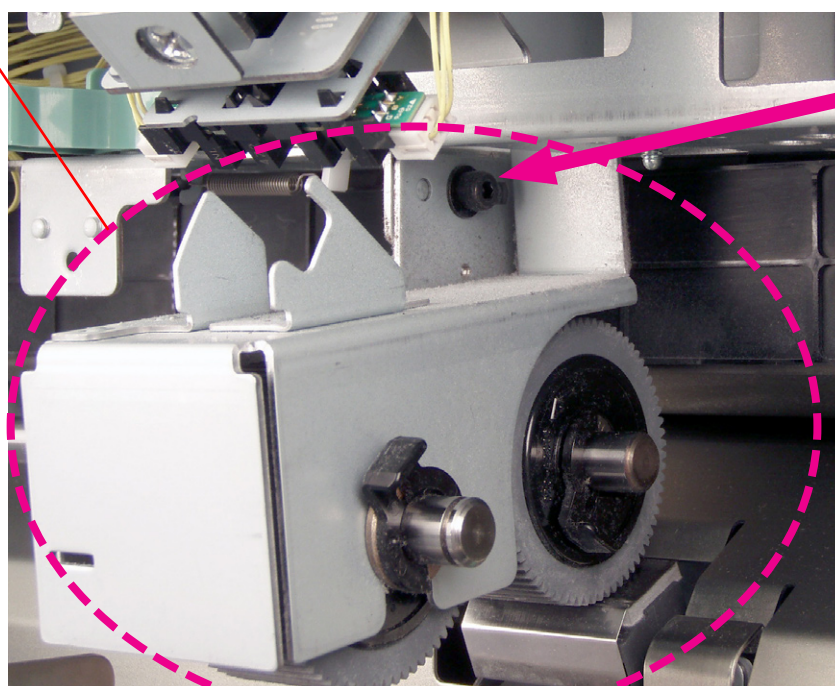
- * No Upper limit sensor A on EZ2 and all the EV Series.
- * No Paper feed pressure sensor on EZ2 & EV2.

- (1) Lower the Paper feed tray all the way down, and switch OFF the machine power.
- (2) Remove the Paper feed cover by removing screws (M4 x 8 screw; 2 pcs).
- (3) Remove a cap-screw (M4 x 8 screw; 1 pc) and remove the paper feed roller assembly.



0427

Paper feed roller assembly



Cap screw(M4X8)

0428

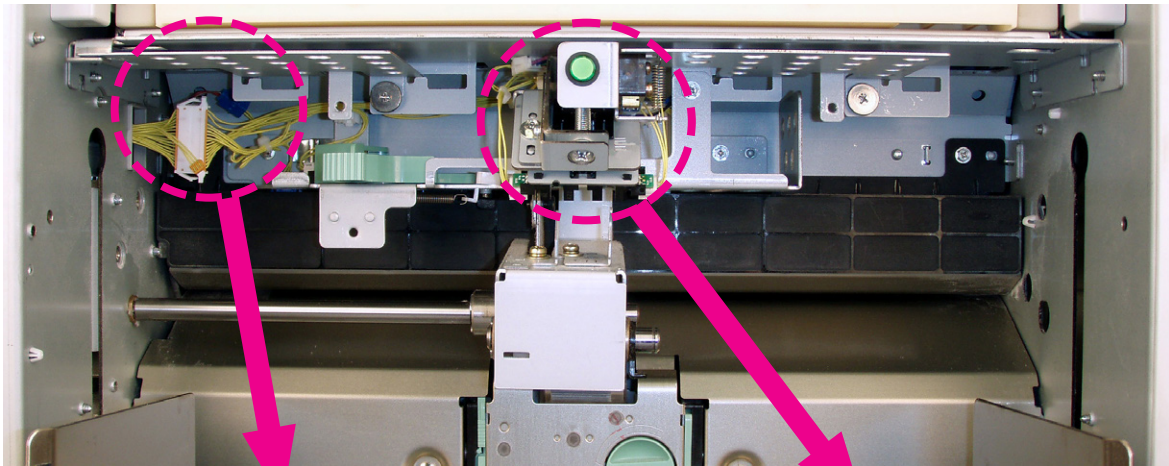
5. Removing the Paper Feed Tray Button and Paper Feed Tray Upper Safety Switch

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	#	#

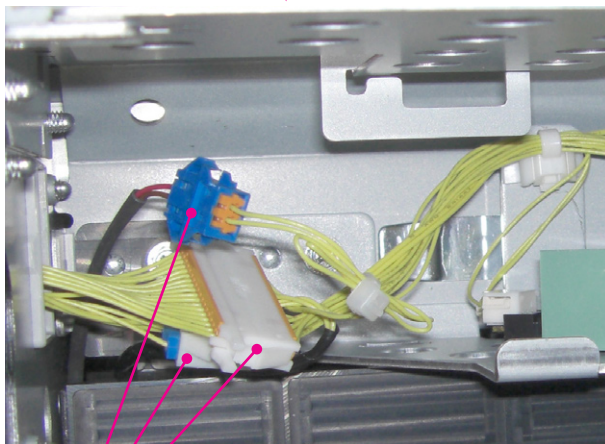
* No Upper limit sensor A on EZ2 and all the EV Series.

* No Paper feed pressure sensor on EZ2 & EV2.

- (1) Lower the Paper feed tray all the way down and turn OFF the machine power.
- (2) Remove the following components.
 - Paper feed cover
 - Paper feed roller assembly
- (3) Unplug three connectors. (EZ2/EV2 - two connectors)
- (4) Remove the Paper feed tray upper safety switch spring.
- (5) Remove screws (M3 x 6 screw; 3 pcs) and remove the First paper feed stay assembly.

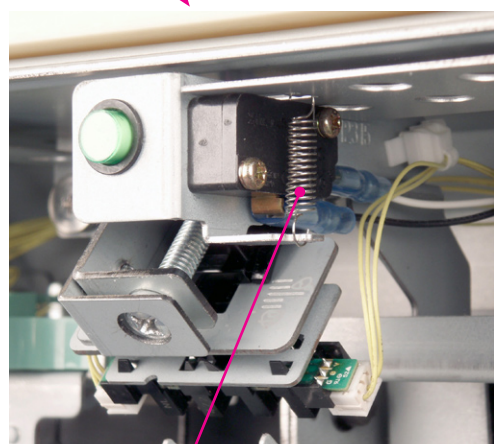


0429



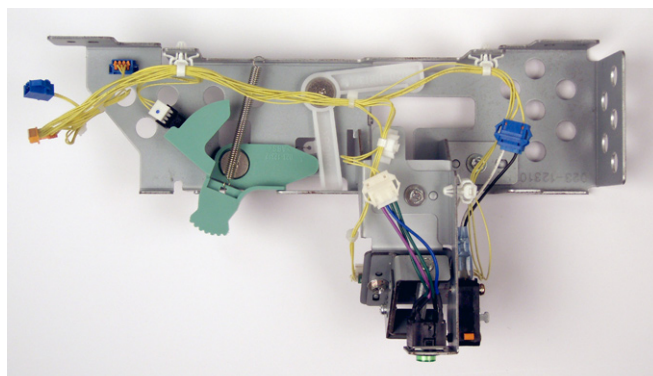
0430

Connector



Upper safety switch spring

0431



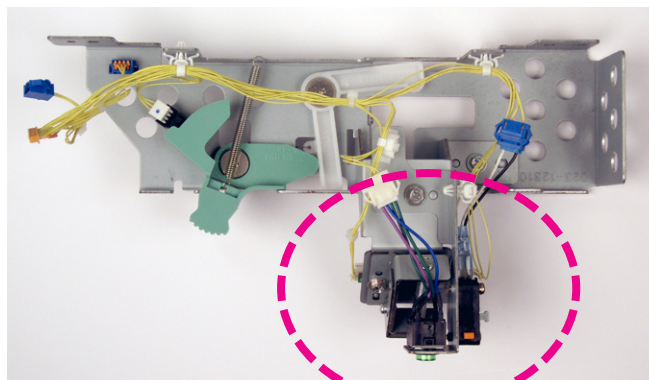
< First paper feed stay assembly > 0432

Removing the Paper feed tray button

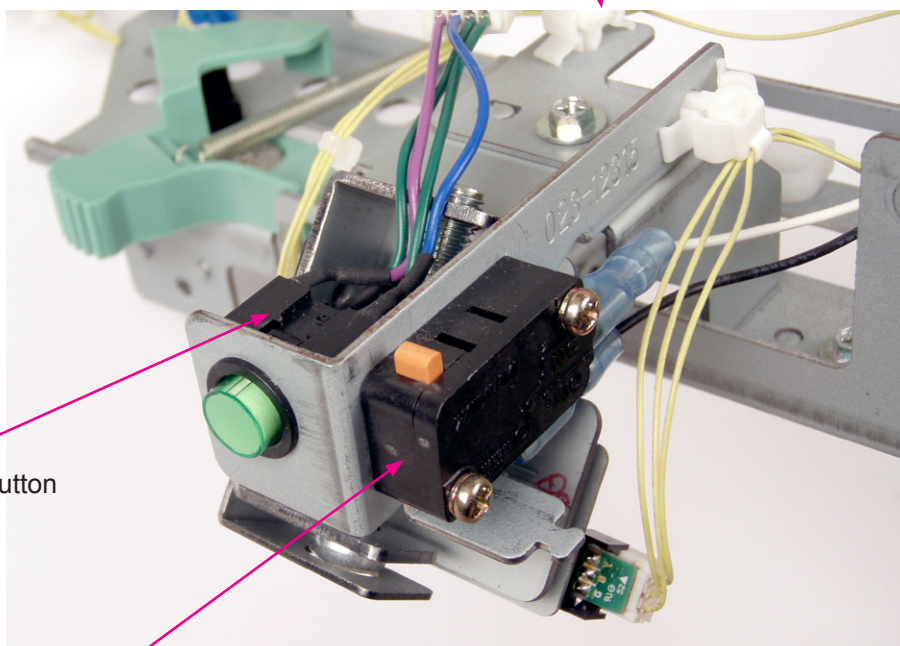
- (6) Unplug the connector and remove the Paper feed tray button after unhooking the hooks (two locations).

Removing the Paper feed tray upper safety switch

- (6) Unplug the connector, remove screws (M3 x 14 screw; 2 pcs), and remove the Upper safety switch.



0432



Paper feed tray button

Paper feed tray upper safety switch

0433

6. Removing the Paper Feed Tray Upper Limit Sensor and Paper Feed Pressure Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	#	#

* No Upper limit sensor A on EZ2 and all the EV Series.

* No Paper feed pressure sensor on EZ2 & EV2.

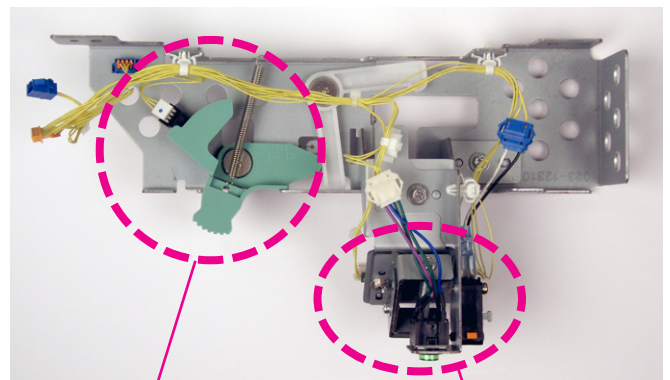
- (1) Lower the Paper feed tray fully down and switch OFF the machine power.
- (2) Remove the Paper feed cover.
- (3) Remove the First paper feed stay assembly.

Removing the Paper feed upper limit sensor

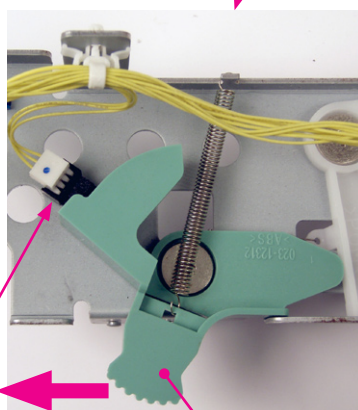
- (4) Unplug the connector and remove each sensor.

Removing the Paper feed pressure sensor

- (4) Set the Paper feed pressure lever to "NORMAL".
- (5) Unplug the connector and remove the Paper feed pressure sensor.



0432

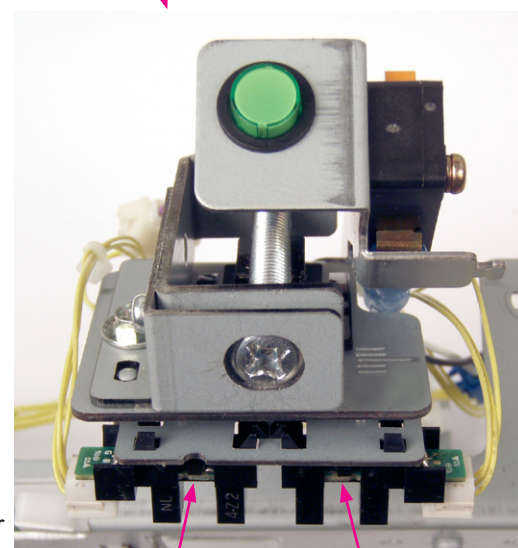


0434

"Normal" side

Paper feed pressure sensor

Paper feed pressure lever



0435

Upper limit sensor B

Upper limit sensor A

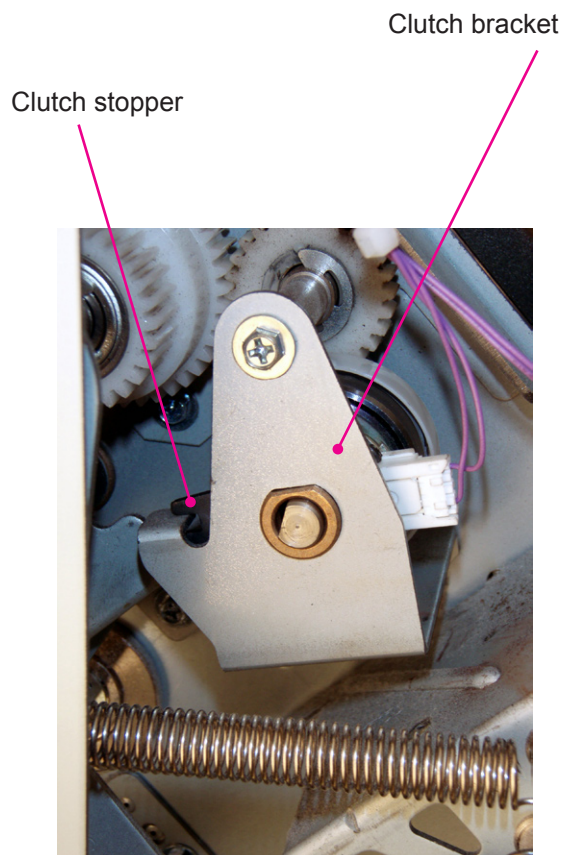
7. Removing the Paper Feed Clutch

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Rear cover.
- (2) Open the SH PCB bracket. (M4 x 8 screw; 4 pcs)
- (3) Remove the mounting screws (M4 x 8 screw; 2 pcs) and remove the Pickup clutch bracket.
- (5) Unplug the connector and remove the Paper feed clutch.

< Precautions in assembly >

- Make sure not forget to insert the Clutch stopper on to the Clutch bracket.



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8. Removing the Elevator Motor

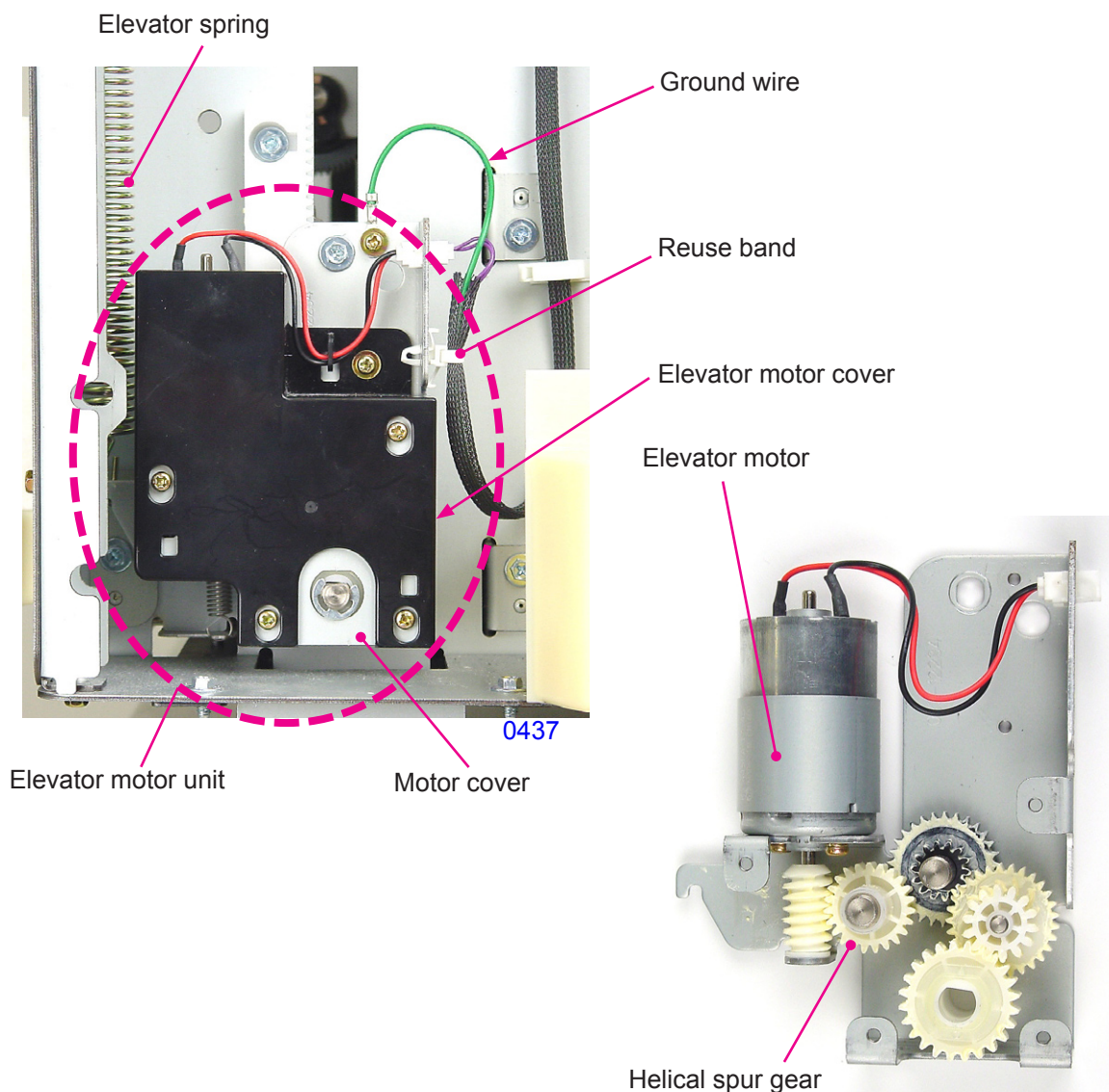
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Remove Front cover. (M4 x 8 screw; 4 pcs) (M4 x 10 screw; 2 pcs) (Shoulder screw; 3 pcs)
- (2) Remove Elevator spring on the machine front.
- (3) Remove mounting screw (M3 x 8 screw; 1 pc) and disconnect the ground wire.
- (4) Unplug connector and remove the reusable band.
- (5) Remove the E-ring, remove the mounting screw (M4 x 8 screw; 1 pc), and remove the Elevator motor unit.

Caution:

When removing the elevator motor unit, grasp the Paper feed tray to prevent the Paper feed tray from rising abruptly, as the Elevator spring on the rear of the machine is still attached.

- (6) Remove mounting screw (M3 x 6 screw; 1 pc) and remove the Elevator motor cover.
- (7) Remove mounting screws (M3 x 5 screw; 4 pcs) and remove the Motor cover.
- (8) Remove the Helical spur gear.
- (9) Unplug the connector, remove the mounting screws (M3 x 5 screw; 2 pcs), and remove the Elevator motor.



9. Removing the Lower Limit Sensor and Paper Feed Tray Lower Safety Switch

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

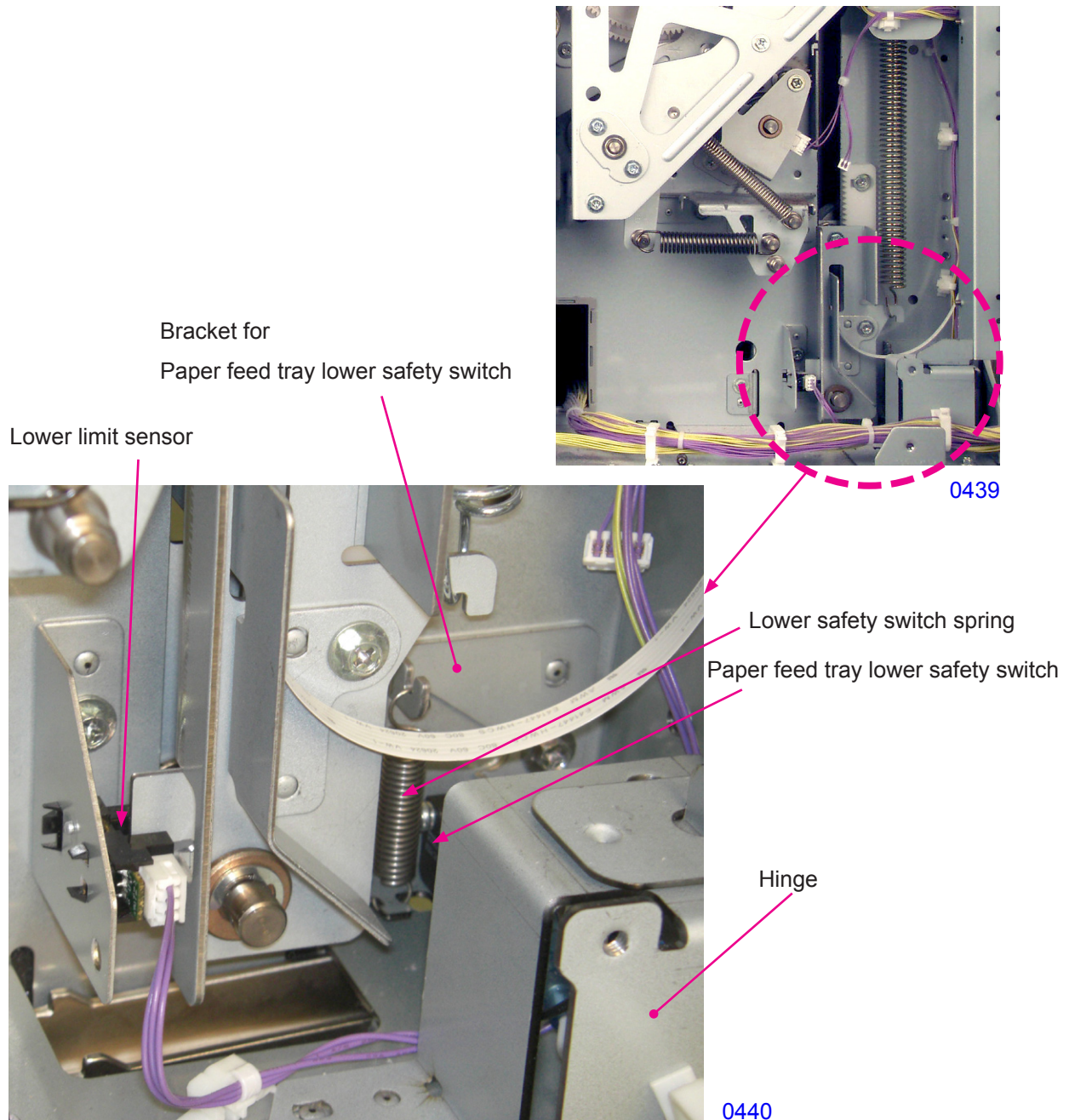
- (1) Raise the Paper feed tray to the upper-limit position, then switch OFF the machine power.
- (2) Remove the Rear cover (M4 x 8 screw; 4 pcs).
- (3) Open the SH PCB bracket (M4 x 8 screw; 4 pcs).

Removing the Lower limit sensor

- (4) Unplug the connector and remove the Lower limit sensor.

Removing the Paper feed tray lower safety switch

- (5) Remove the Hinge (M4 x 8 screw; 2 pcs).
- (6) Remove the Lower safety switch spring.
- (7) Unplug the connector, remove the mounting screw (M4 x 8 screw; 1 pc), and remove the Paper feed tray lower safety switch together with the bracket.

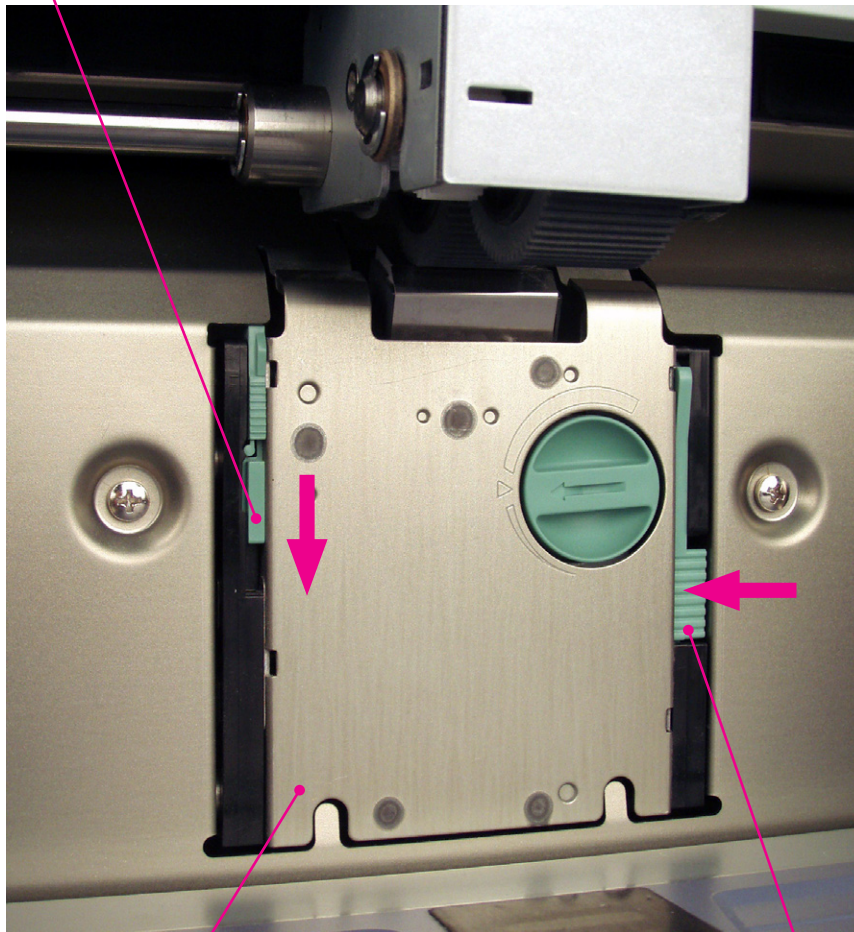


10. Removing the Stripper Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Lower the Paper feed tray to the lower-limit position, then switch OFF the machine power.
- (2) Lower the Lock knob and release the lock for the Stripper pad unit.
- (3) Press the Stripper release lever and remove the Stripper unit.

Lock knob



0441

Stripper unit

Stripper release lever

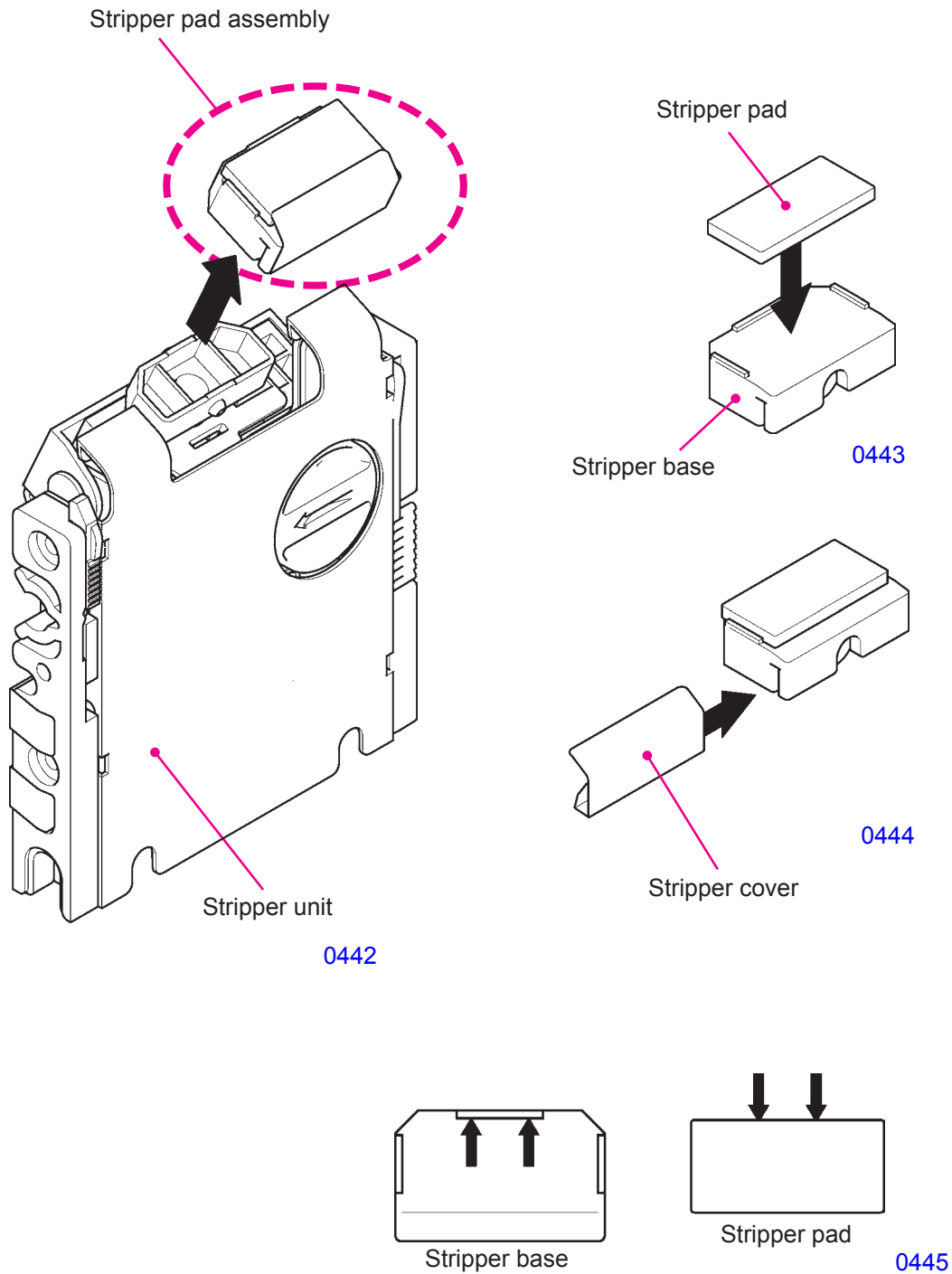
11. Removing the Stripper Pad Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Lower the Paper feed tray to the lower-limit position, switch OFF the machine power, and remove the Stripper unit.
- (2) Manually lift and remove the Stripper pad assembly.

< Precautions for installation >

- Position the edge of the Stripper pad (indicated by the arrows) against the Stripper pad base (indicated by the arrows) when attaching the Stripper pad. <Refer to the sketch on the bottom.>



Adjustment

1. Upper Limit Sensor Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	#	#

* No Upper limit sensor A on EZ2 and all the EV Series.

* No Paper feed pressure sensor on EZ2 & EV2.

Checks and adjustment procedures

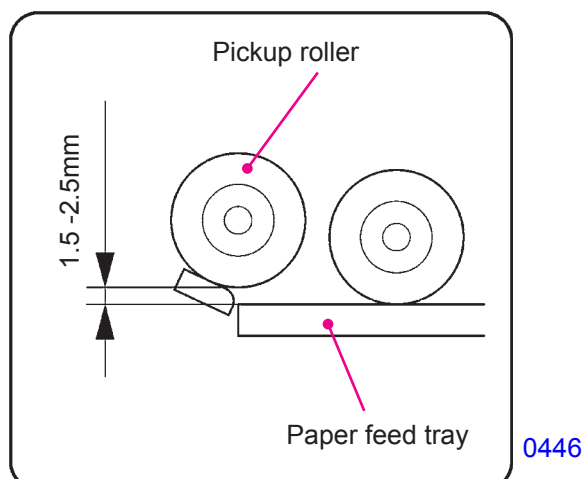
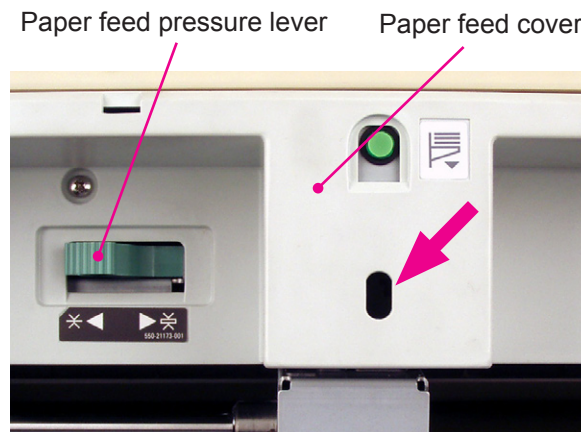
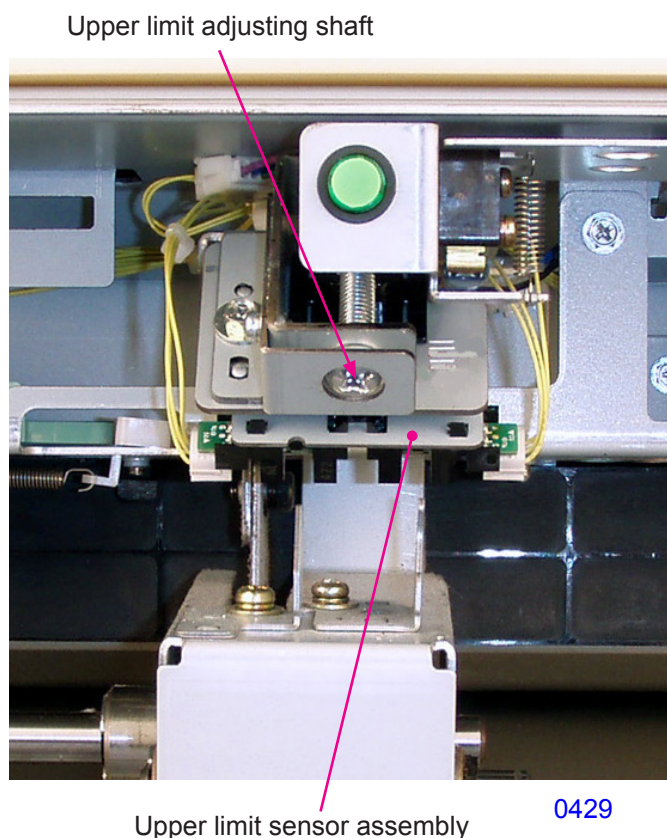
- (1) Remove paper from the Paper feed tray and set the Paper feed pressure lever to the <Normal> position.
- (2) Run Test Mode No. 0681 (Paper feed tray maximum up positioning) to lift the Paper feed tray. Bring to a full stop.
- (3) After the Paper feed tray comes to a complete stop, confirm that the gap between the Pickup roller and the Paper feed tray ranges from 1.5 to 2.5 mm.
- (4) If the measured value falls outside this range, adjust by inserting a flat-head screwdriver through the opening in the Paper feed cover and turn the Upper limit adjustment shaft to move the Upper limit sensor assembly up or down.

Caution:

Turning the Upper limit adjustment shaft clockwise lowers the Upper limit sensor assembly and increases the gap.

Symptoms

- (1) Setting the Upper limit sensor position too high increases the paper feed pressure and may result in multiple paper feeds.
- (2) Setting the Upper limit sensor position too low decreases paper feed pressure and may result in paper feed failure.



2. Stripper Pad Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Adjustment procedure

- (1) Switch the Paper feed pressure lever position to suit the paper type and begin printing.
- (2) If a multiple paper feed or paper feed failure occurs, adjust the Stripper pad angle or Stripper pad pressure.

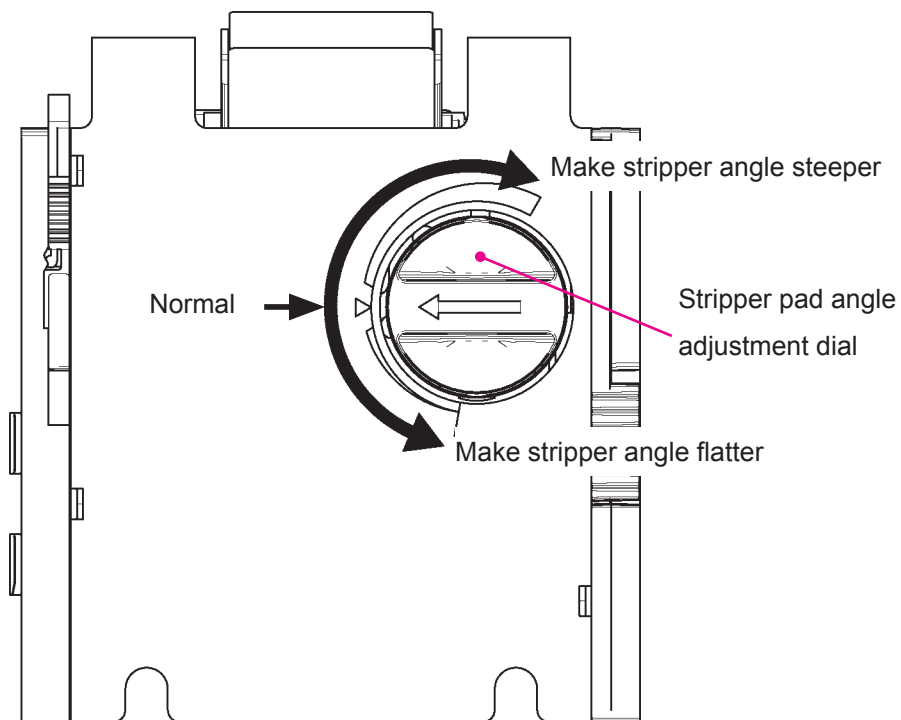
Countermeasure

1) When multiple paper feeds occur:

- Turn the Stripper pad angle adjuster clockwise to increase the stripper pad angle (increase the angle).

2) When paper feed failures occur:

- Turn the Stripper pad angle adjuster counterclockwise to decrease the Stripper pad angle (decrease the angle).



0447

3. Paper Feed Clutch ON Angle Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Checks and adjustment procedures

- (1) Print and confirm that the paper feeds reliably and smoothly.
- (2) If the timing is off for the first paper feed, launch test mode for the Paper feed clutch ON angle adjustment and adjust, based on the paper type selection setting entered by the user. (For setting procedures and related information, refer to the section on the test modes.)
- (3) Repeat the steps from (1).

Caution: Refer page [4-8] for adjustment

Symptoms

If first paper feed timing is off, paper jams or print position deviations may occur.

4. Paper Feed Clutch OFF Angle Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Checks and adjustment procedures

- (1) Print and confirm that printing occurs smoothly.
- (2) If the paper slack is excessive or inadequate and results in unsatisfactory printing results, launch test mode for the Paper feed clutch OFF angle adjustment and make adjustments based on the paper type selection setting entered by the user. (For setting procedures and related information, refer to the section on test modes.)
- (3) Repeat the steps from (1).

Caution: Refer page [4-8] for adjustment

Symptoms

If the paper slack is excessive or inadequate, paper will not transfer to the second paper feed section, resulting in paper jams.

5. Paper Width Potentiometer Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

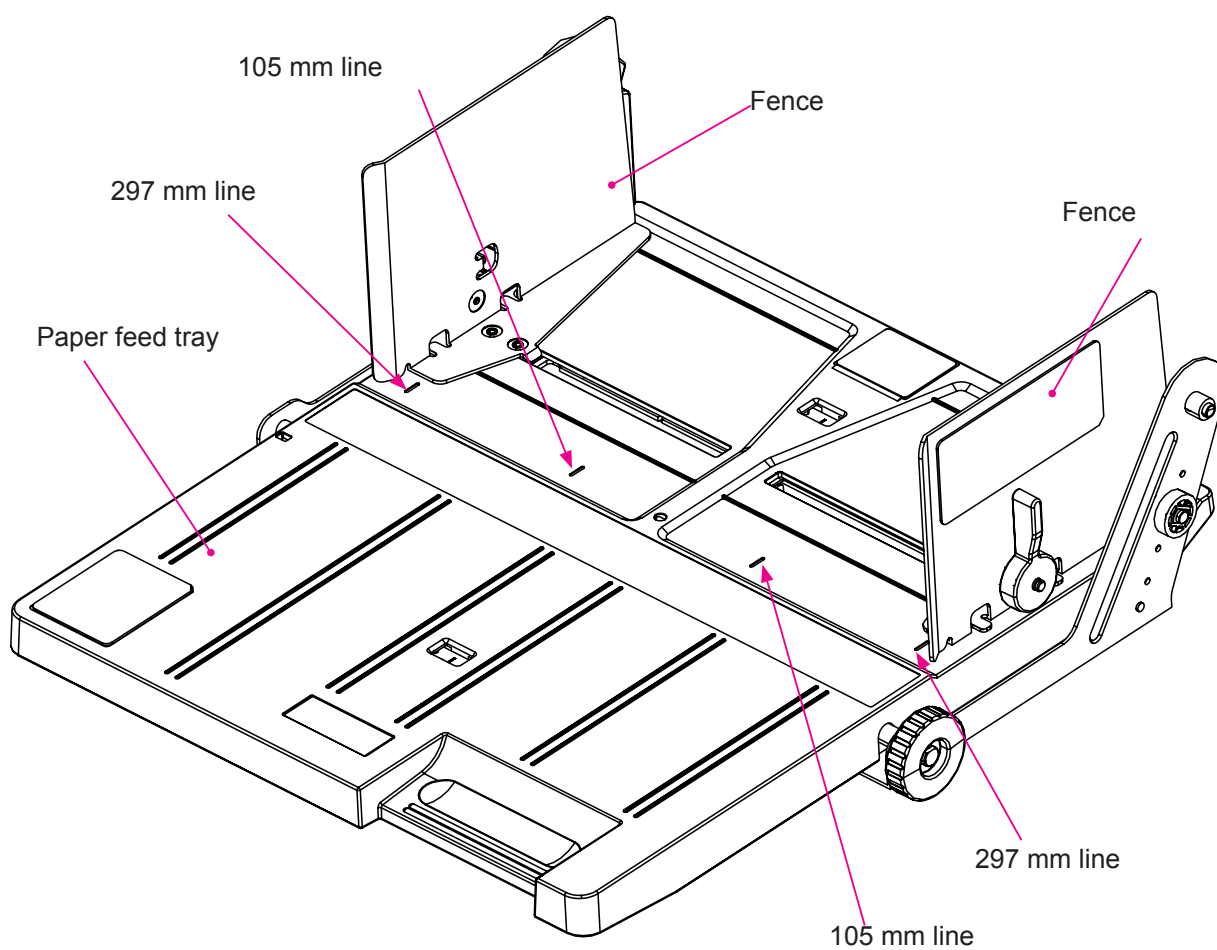
Checks and adjustment

- (1) Access into protected area test mode by activating Test Mode No. 9874.
- (2) Open the paper fence to 105 mm width, and run Test Mode No.1102.
- (3) Open the paper fence to 297 mm width, and run Test Mode No.1103.
- (4) Open the paper fence to 105 mm width, and run Test Mode No.0721 to confirm whether the adjustment ended correctly or not. Confirm that the display shows a value between 1020 and 1080 (1050 plus/minus 30).
- (5) With Test Mode still in No.721, open the fence to 297 mm width, and make sure the indication shows a value between 2940 and 3000 (2970 plus/minus 30).

Caution: When setting the fence to the given width for above adjustments, make sure to slide the fence inward to the given width. Do not set to the given width by opening the fence. The fence must be moved inward for correct for correct value reading.

Symptoms

If the adjustment is incorrect, the machine judges the paper on the tray to be in a different size. This would result in either reduced or increased master making area, and may cause the Pressure roller to become dirty with ink.



0402

MEMO

CHAPTER 6: SECOND PAPER FEED SECTION

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Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

1. Second Paper Feed Mechanism

During the printing, the Sector gear cam and Timing cam rotate in counterclockwise direction. The pull of the Sector gear spring pushes the Sector gear cam follower on the Sector gear assembly against the Sector gear cam. Riding on the Sector gear cam, the Sector gear assembly makes pendulum (swinging) action when the Sector gear cam rotates. The Sector gear transfers the drive to the Timing gear.

The Timing gear has a built-in clutch to drive the Timing roller only when the gear rotates in the counterclockwise direction by the clockwise swing of the Sector gear.

Due to the one-way clutch on the Timing gear, the Timing roller stays stationary when the Sector gear swings in the counterclockwise direction to rotate the Timing gear in the clockwise direction.

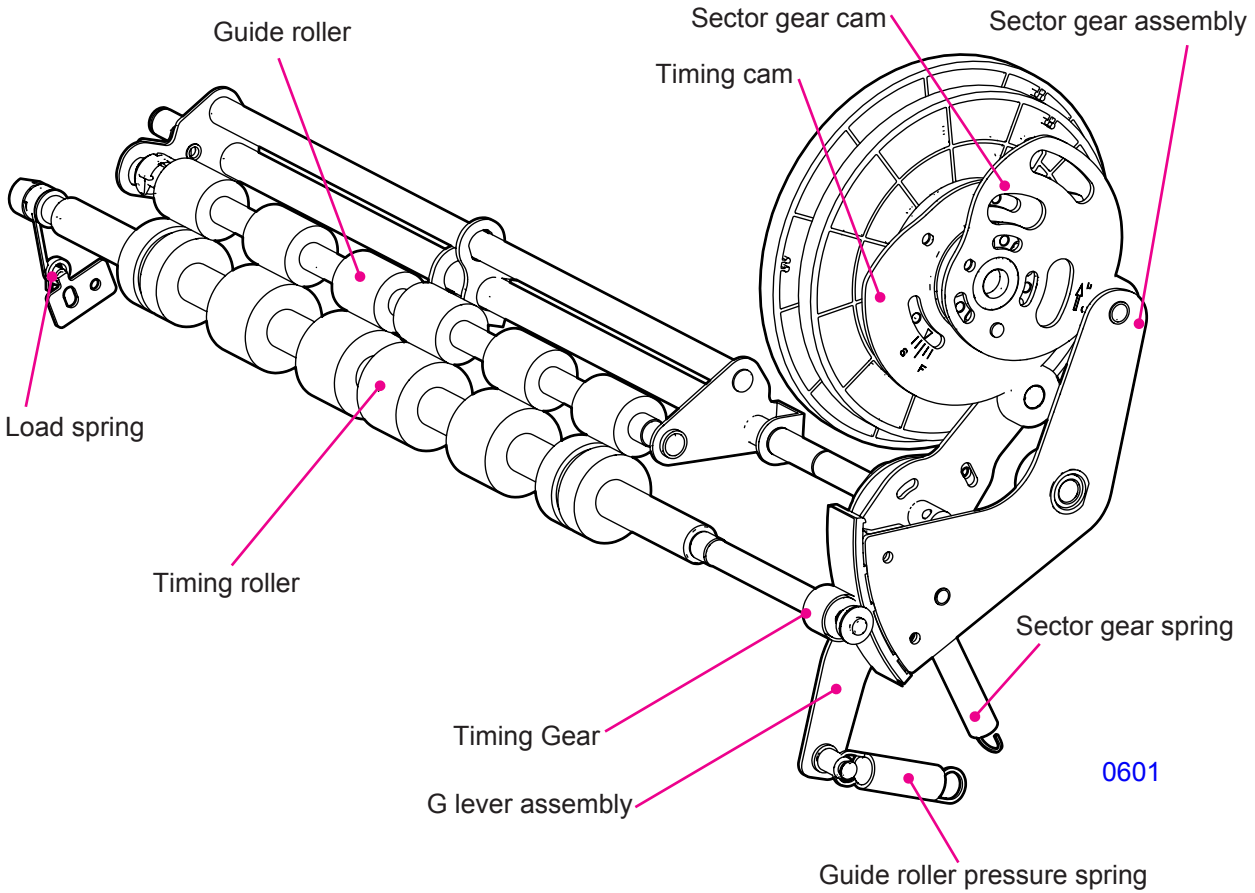
To ensure that the Timing roller stops instantly when the Timing gear ends its counterclockwise rotation, a Load spring is mounted on the operators side of the Timing roller to apply a brake on the Timing roller.

The Guide roller receives its rotation drive directly from the Timing roller. The Guide roller pressure spring pulls the Guide roller down against the Timing roller to make the contact. When in contact, the Guide roller makes its rotation when the Timing roller rotates. When the Timing cam pushes the G-lever assembly down, the Guide roller rises and releases the contact with the Timing roller.

During the printing, as the first paper feed area sends the paper onto the second paper feed area, the Guide roller is in contact with the Timing roller and stationary.

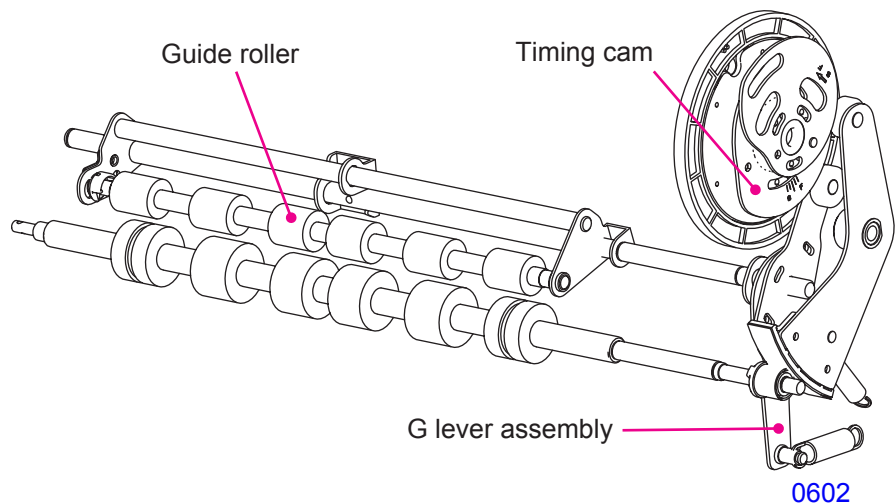
As the paper arrives, both the Timing roller and Guide roller rotate to pinch the paper in between and transfers the paper onto the Print drum area for printing.

During the printing, as the rotation of the Timing roller ends, the Guide roller elevates up to disengage from the Timing roller to let the paper go through into the printing area freely without any resistance.



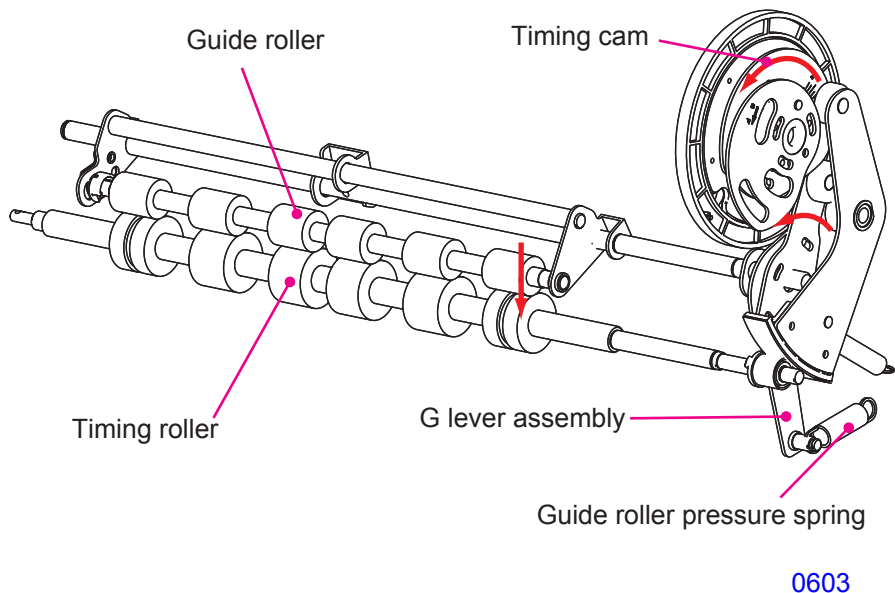
<At print drum Position-A>

When the Print drum comes to its position-A, the G-lever assembly is pushed down by the Timing cam and the Guide roller is raised up.

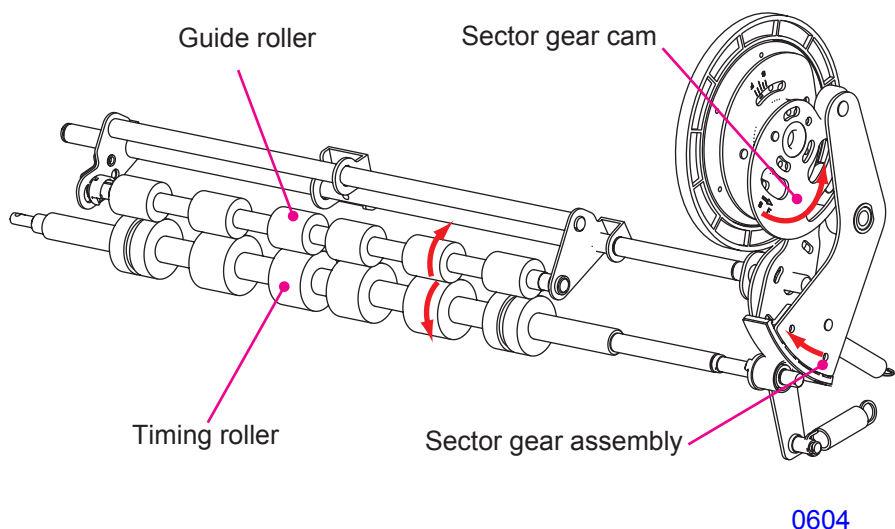
**<First paper feed starts>**

When the first paper feed starts, the Timing cam start rotating counter-clockwise.

By this action, the G-lever assembly also rotates counter-clockwise and the Guide roller pressure spring pulls the Guide roller down against the Timing roller, preventing the paper to go any further into the machine.

**<Second paper feed starts>**

When the first paper feed operation ends, the rotation of the Sector gear cam swings the Sector gear assembly in the clockwise direction. The clockwise swing of the Sector gear drives the Timing roller. The Timing roller drives the Guide roller with the paper clamped in between, sending the paper onto the printing area.

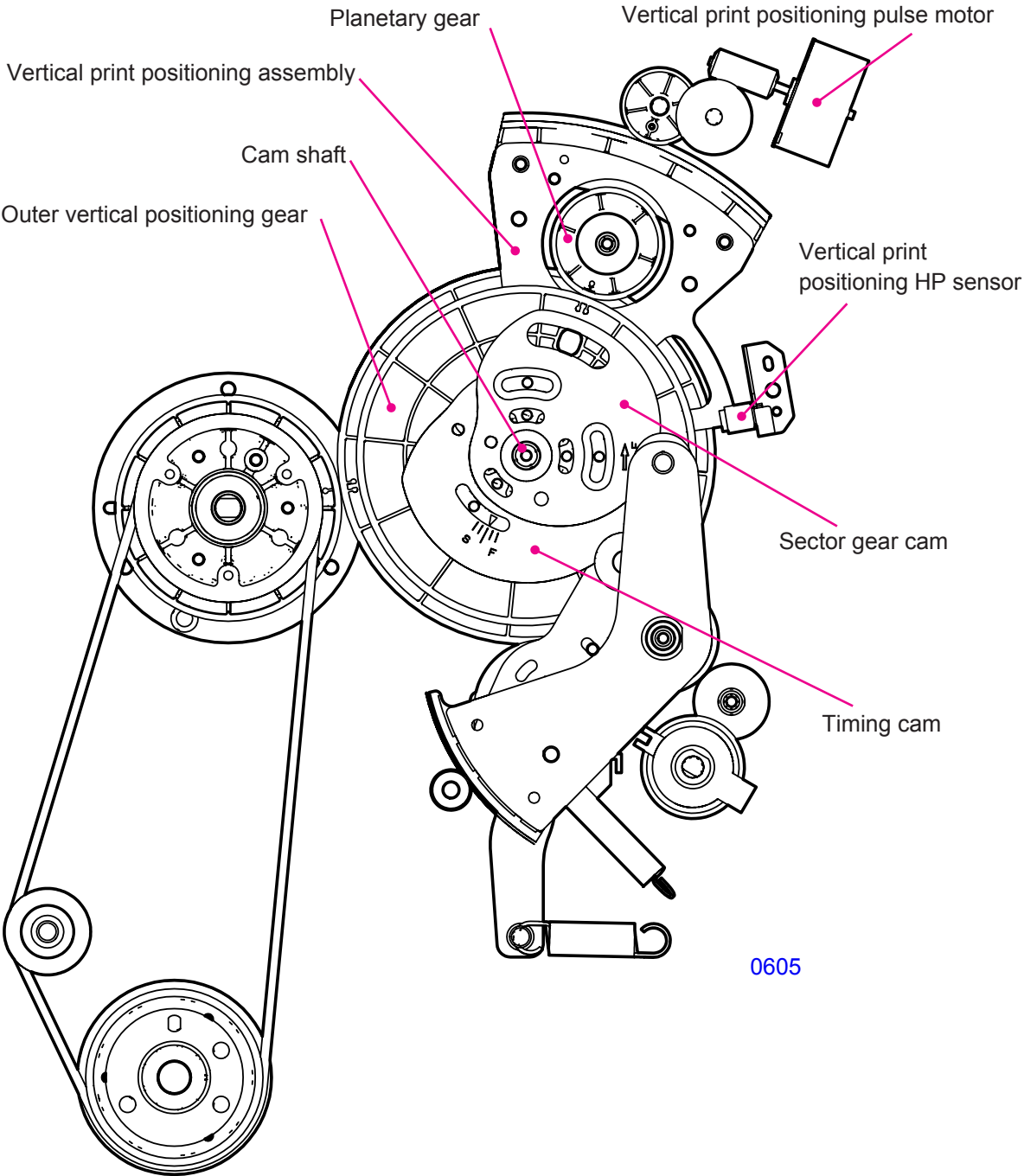


2. Vertical Print Position Control

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

Pressing the ◀ or ▶ button of the print position key on the Operation panel activates the Vertical print positioning pulse motor. The rotation of the Vertical print positioning pulse motor swings the Vertical print positioning assembly either to the clockwise or counterclockwise direction with the pivot on the Cam shaft. The movement of the Vertical print positioning assembly rotates the Planetary gear. The Planetary gear then rotates the Outer vertical positioning gear. The rotation of the Outer vertical positioning gear offsets the position of both the Timing cam and Sector gear cam against the Print drum, causing the vertical print position on the paper to change.

The vertical default (home) position is checked by the Vertical print positioning HP sensor.

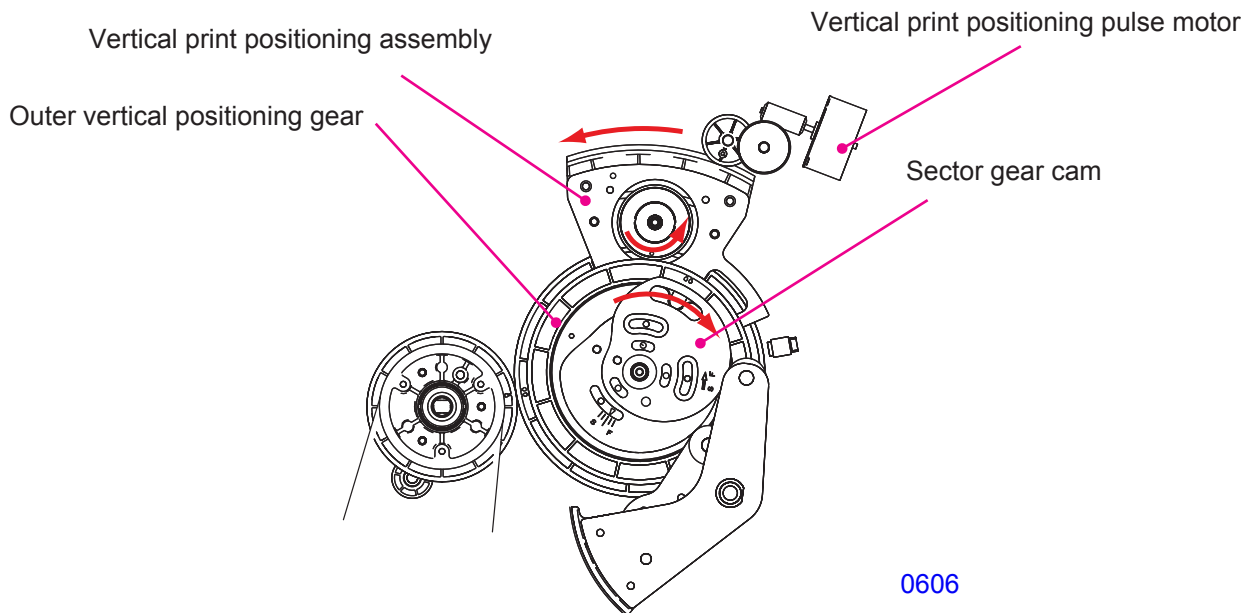


0605

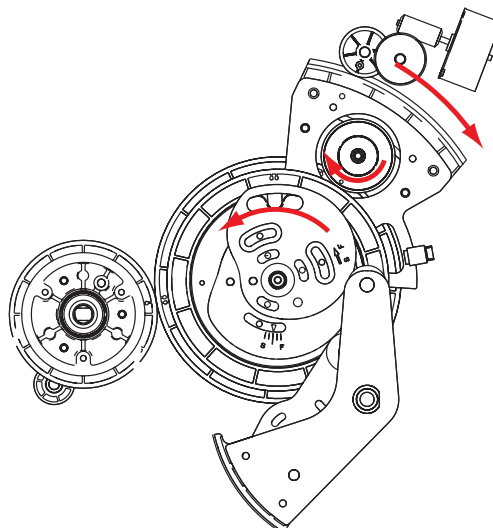
Pressing the ► key on the Operation panel (print image up)

When the ► key is pressed, the Vertical print positioning pulse motor moves the Vertical print positioning assembly in the counterclockwise direction and the Outer vertical positioning gear in the clockwise direction. The Sector gear cam, which is screwed onto the Outer vertical positioning gear, also changes its position in clockwise direction together with the Outer vertical positioning gear.

Noting that the Outer vertical positioning gear and Sector gear cam rotates in the counterclockwise direction during the printing, the Sector gear cam shifted clockwise from the default position delays the timing of the Timing roller to start its rotation. The timing of the paper feeding into the printing area delays and the print position on the paper goes up.

**Pressing the ◀ key on the Panel (print image down)**

When the ◀ key is pressed, the Vertical print positioning pulse motor moves the Vertical print positioning assembly in the clockwise direction and the Outer vertical positioning gear in the counterclockwise direction. The Sector gear cam, which is screwed onto the Outer vertical positioning gear, also changes its position in counterclockwise direction together with the Outer vertical positioning gear. Noting that the Outer vertical positioning gear and Sector gear cam rotates in the counterclockwise direction during the printing, the Sector gear cam shifted counterclockwise from the default position quickens the timing of the Timing roller to start its rotation. The timing of the paper feeding into the printing area starts early and the print position on the paper goes down.



Disassembly

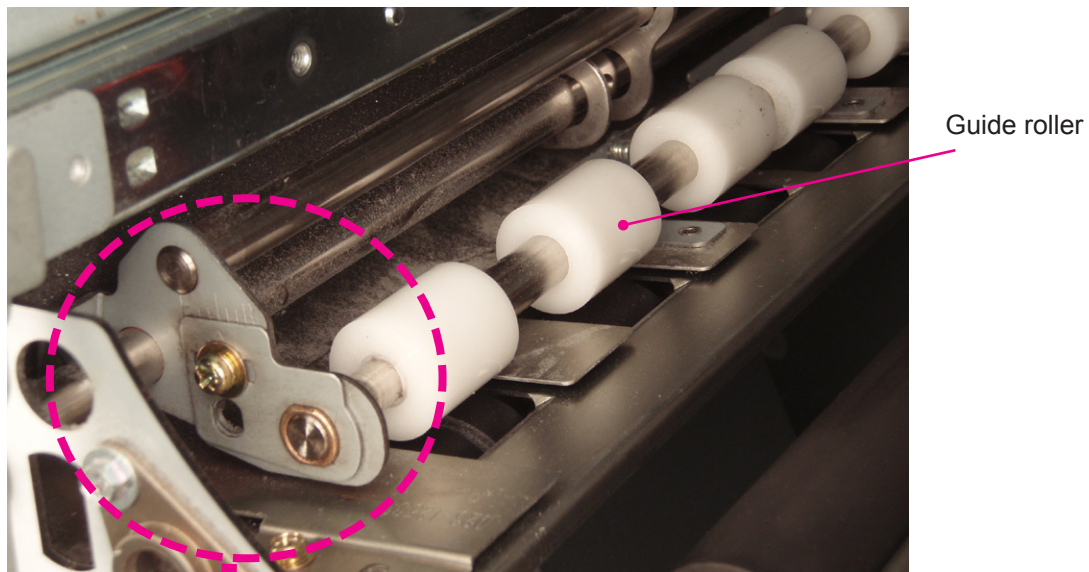
1. Removing the Guide Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

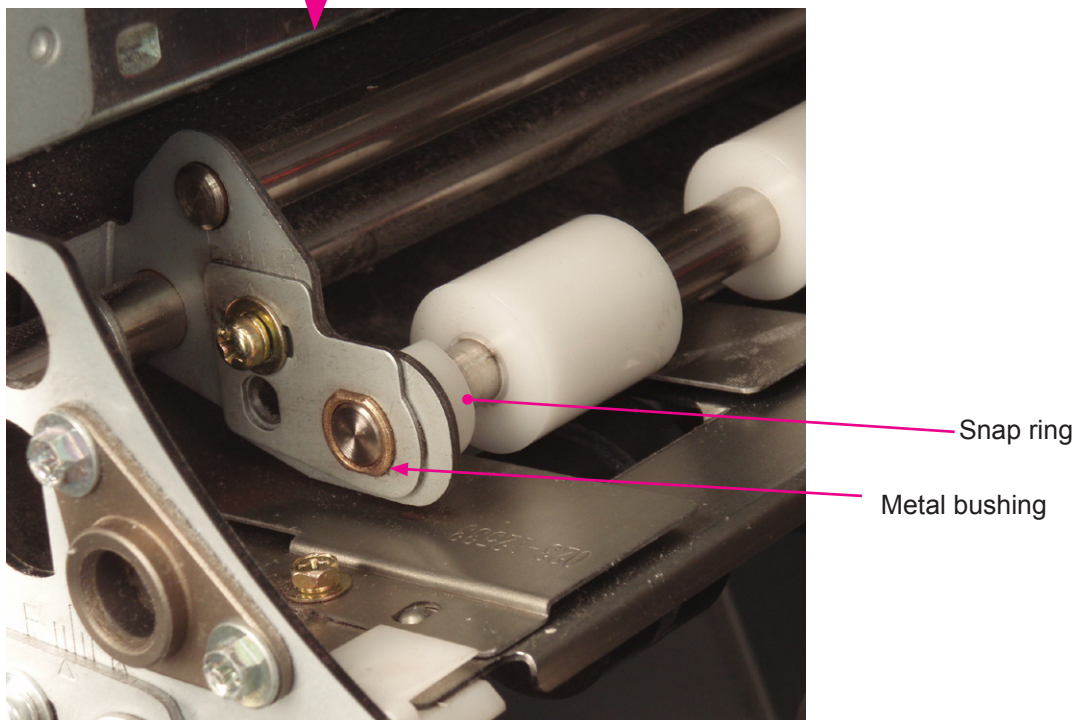
- (1) Pull out the Print drum and switch off the machine power.
- (2) Remove the Snap ring and Metal bushing then remove the Guide roller out of the machine

[Precaution in assembly]

Make sure that the Snap ring fits in the groove in the Guide roller, otherwise the Snap ring gets deformed and may require replacement.



0608



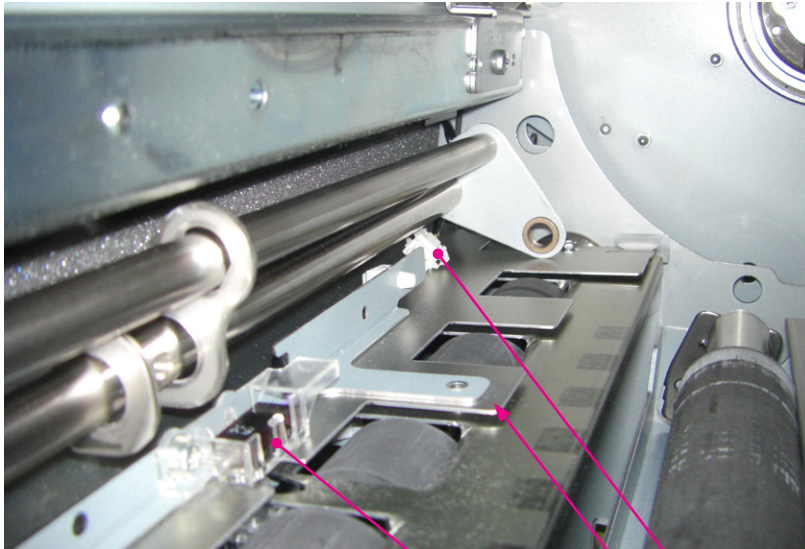
0609

2. Removing the Paper Sensor

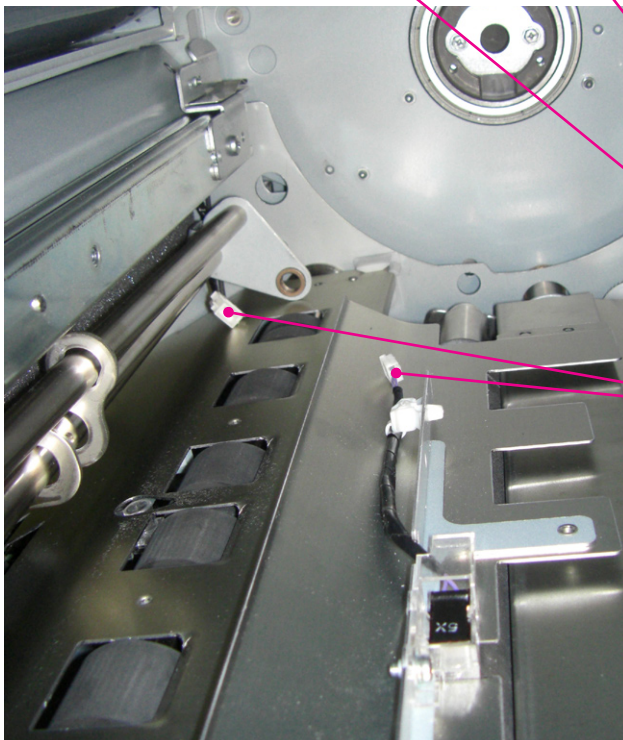
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Removing the Paper Sensor (Receive)

- (1) Remove the Print drum out from the machine and turn OFF the machine power.
- (2) Remove the Guide roller.
- (3) Remove Screws (M3 x 8 screw: 2 pcs), and unplug the connector to remove the Guide plate (upper).



0610



0611

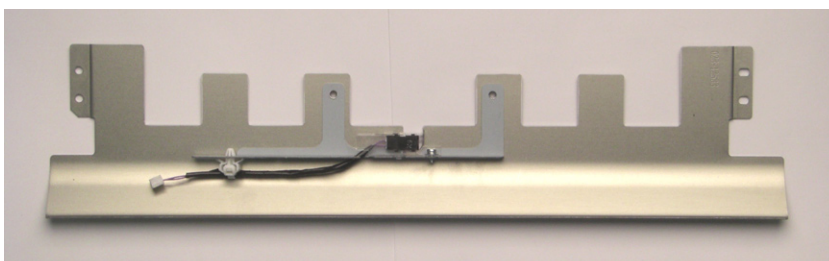
Connector of the Paper sensor
(receive)

Guide plate (upper)

Paper sensor (receive)

Connectors of the Paper sensor
(receive)

This picture shows that the connector unplugged and the Guide plate (upper) already taken off from the above picture.

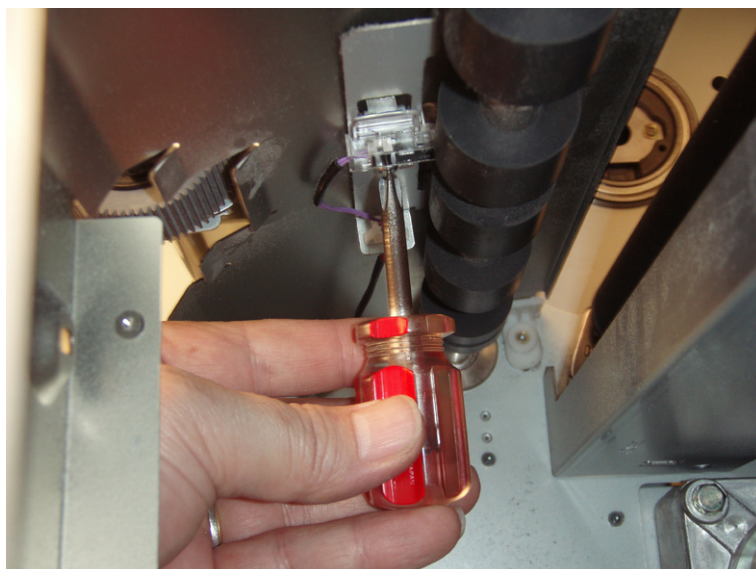
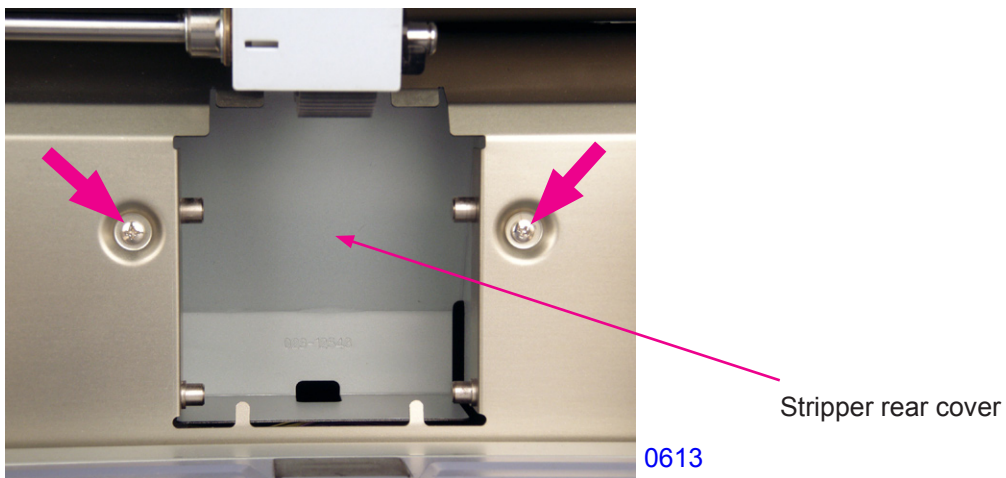
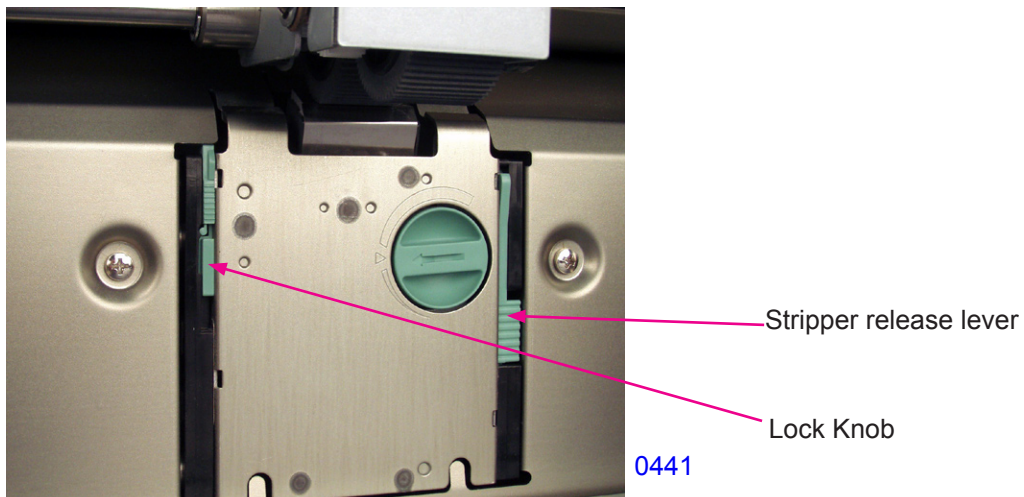


Guide plate (upper)

0612

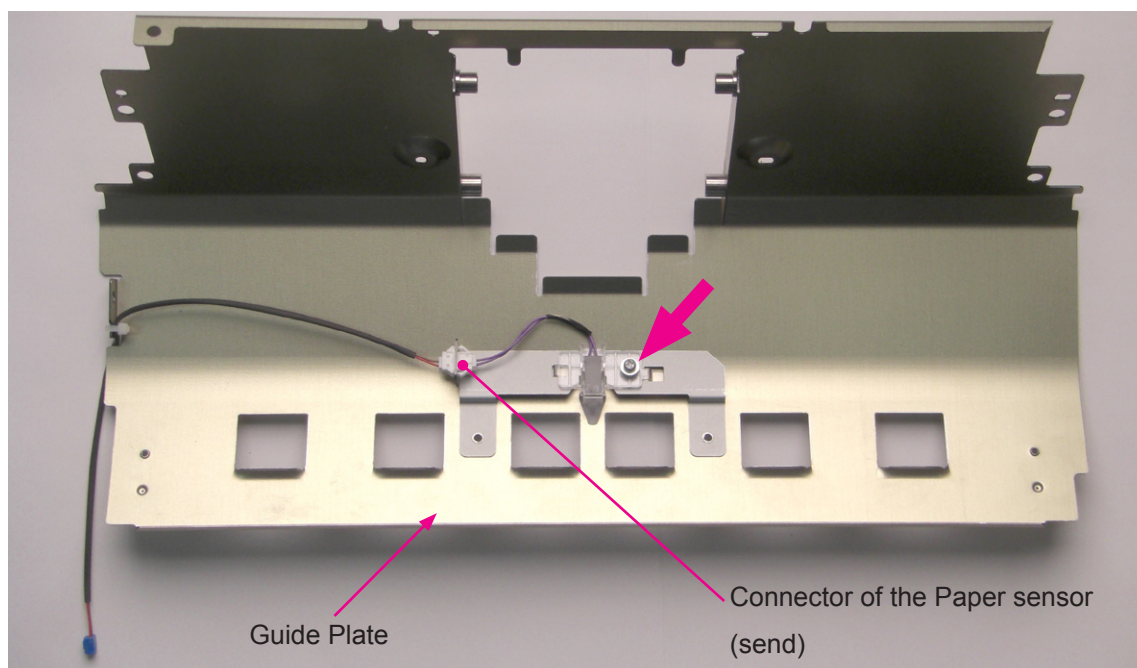
Removing the Paper Sensor (Send)

- (1) Lower the Paper feed tray all the way down and switch OFF the machine power.
- (2) Lower the Lock knob to release the lock on the Stripper unit.
- (3) Push the Stripper release lever and remove the Stripper unit from the machine.
- (4) Remove Screws (M4 x 8 screw; 2 pcs) and remove the Stripper rear cover.
- (5) Put a hand in the Guide plate, and remove a screw (M3 x 8 screw; 1 pc), unplug the connector and remove the Paper sensor (send) together with its bracket.

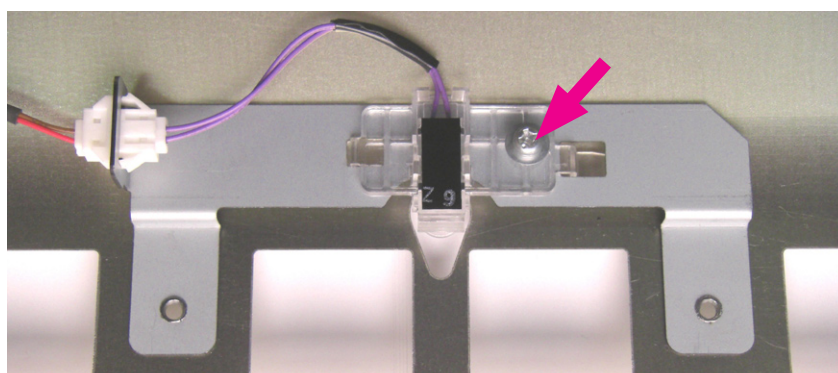


Refer to the 4 photographs on page 6-9 for more detail.

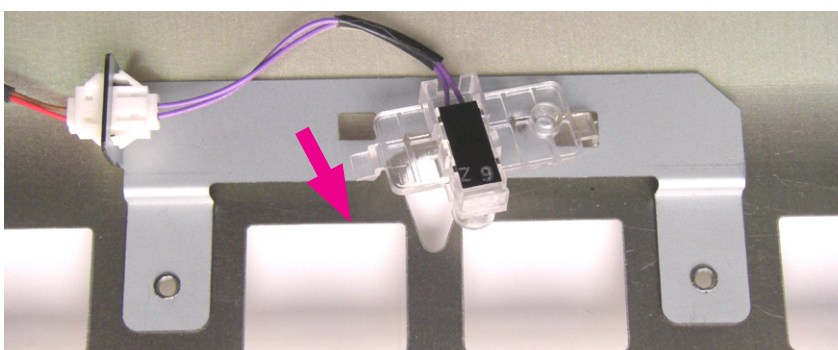
Viewing the Guide plate from the back



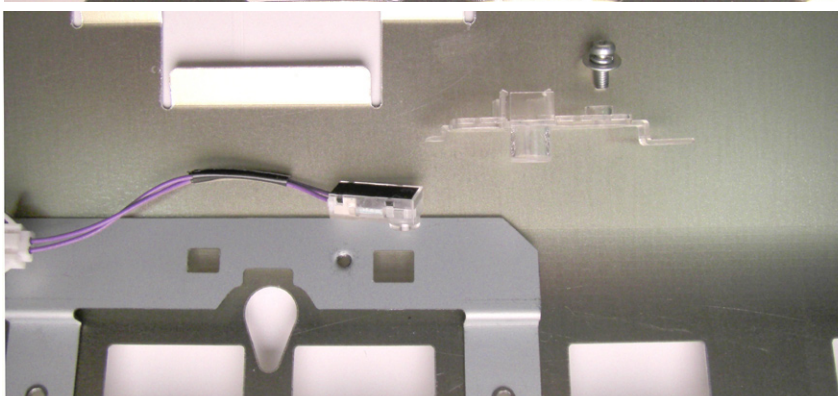
0615



0616



0617



0618

3. Removing the Timing Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

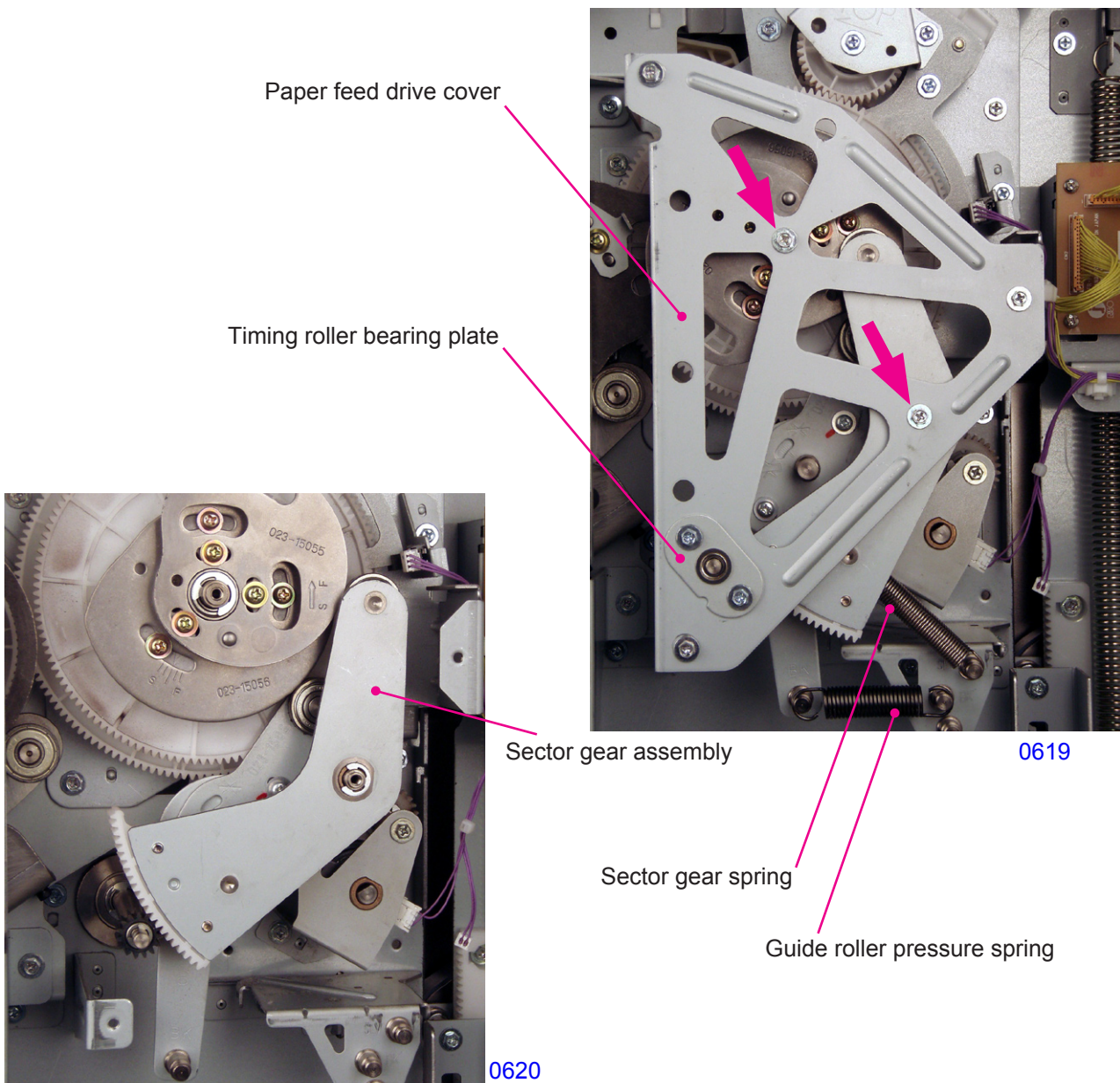
- (1) Pull out the Print drum and switch OFF the machine power.
- (2) Remove the Rear cover.

<Working on the rear of the machine>

- (3) Open the PCB support plate of the Mechanical control PCB.
- (4) Remove the Sector gear spring and the Guide roller pressure spring.
- (5) Remove the Paper feed drive cover. (M4 x 8 screw; 5 pcs)
- (6) Remove the Sector gear assembly by removing the E-ring.

Caution:

- Do not remove the Timing roller bearing plate. If it is removed by mistake, make sure to give enough backlash between the Timing gear and Sector gear by pulling the Timing roller bearing plate diagonally down in left-lower direction.
- When mounting the cover back, tighten the two screws first (shown by arrow marks on the photo.)

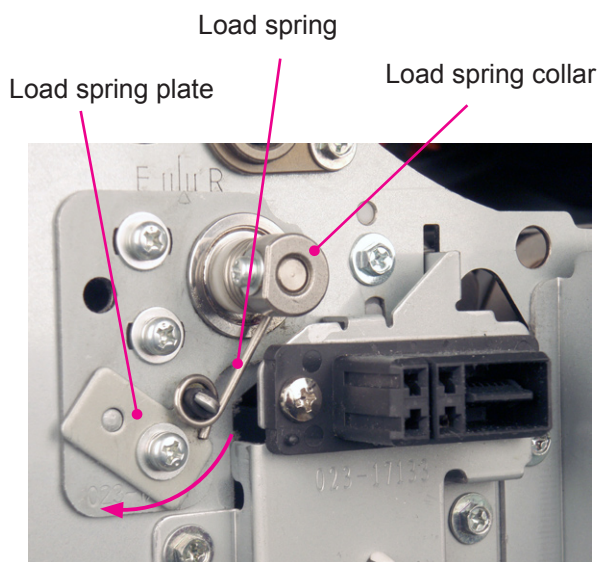


<Working on the front of the machine>

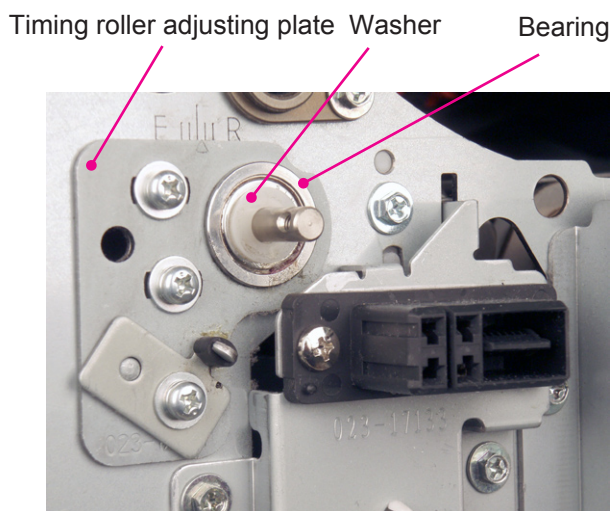
- (7) Remove a Screw (M3 x 8 screw; 1 pc) from the Load spring collar. Then remove Load spring and Load spring collar.
- (8) Remove the Washer, and also the Bearing from the Timing roller adjusting plate.

< Precautions in assembly >

To mount the Load spring plate, rotate the Load spring plate in the arrow direction for a tight fit.



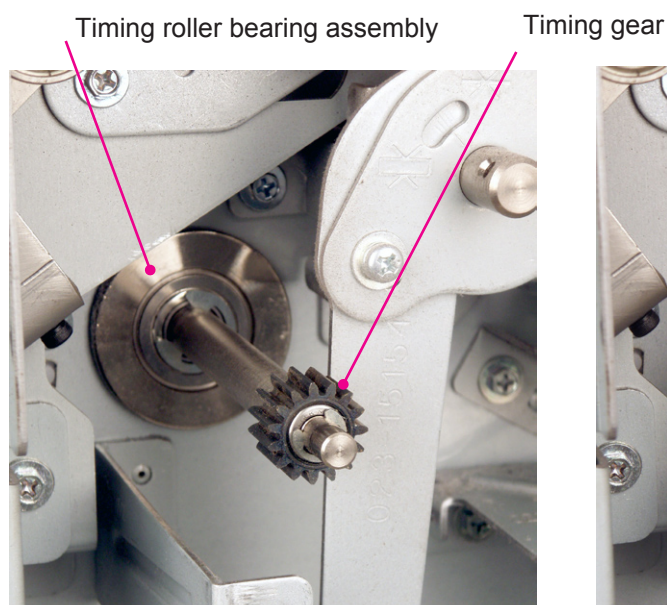
0621



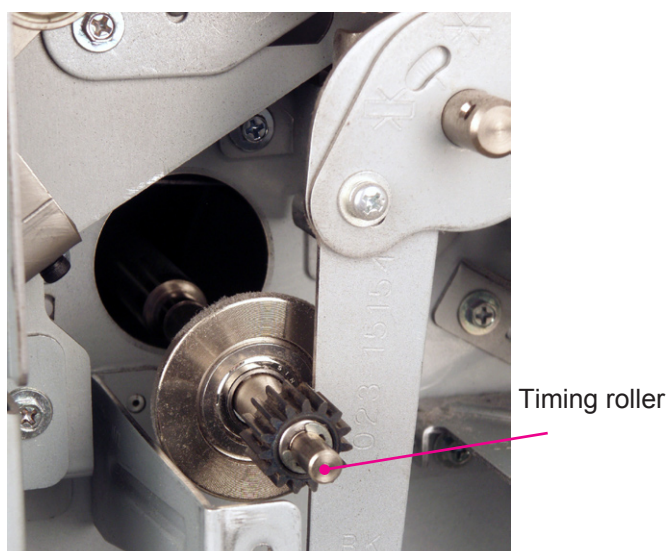
0622

<Working on the rear of the machine>

- (9) Remove the E-ring, and disengage the Timing roller bearing assembly from the machine rear frame. Then pull the bearing assembly out until it almost touches the Timing gear.
- (10) Pull out the Timing roller from the opening on the rear frame of the machine.



0623



0624

< Precautions in assembly >

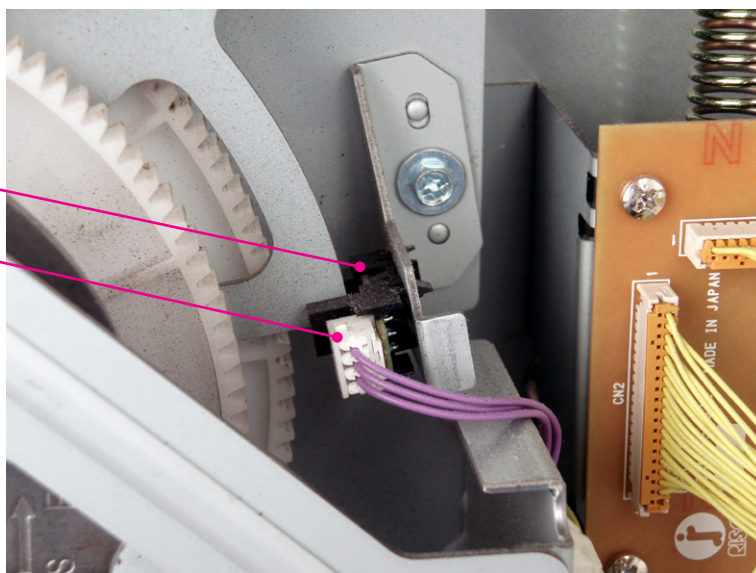
Mount the Sector gear spring and Guide roller pressure spring only at the very last, after the Paper feed drive cover is mounted. This is to allow the Guide roller shaft to fit correctly in the Paper feed drive cover.

4. Removing the Vertical Print Positioning HP Sensor

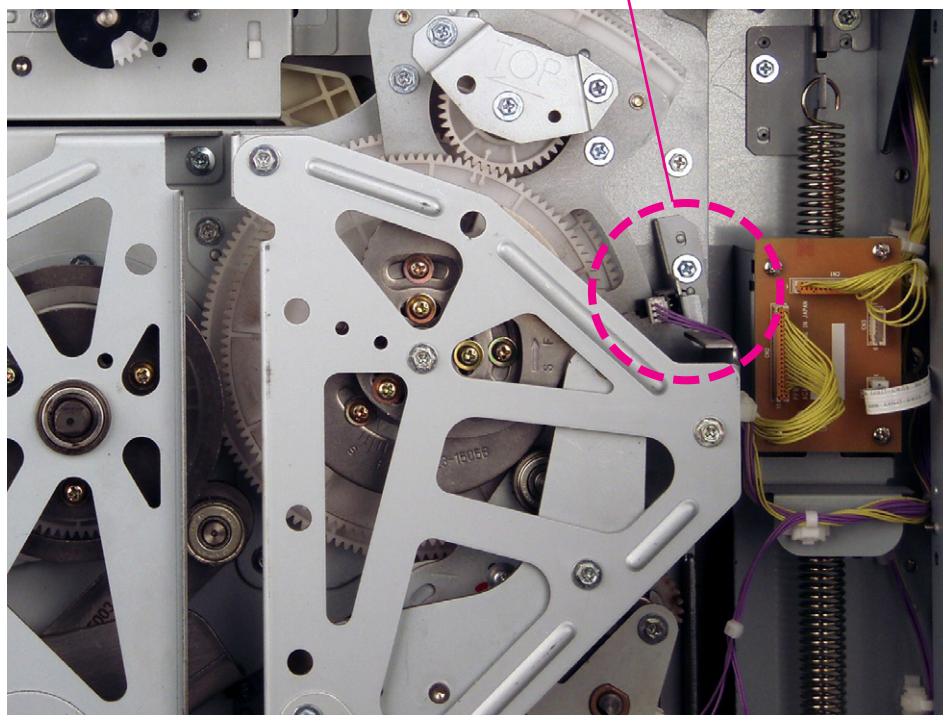
EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

- (1) Switch OFF the machine power and remove the Rear cover.
- (2) Open the PCB support plate of the Mechanical control PCB.
- (3) Unplug the connector, and by removing a screw (M4 x 8 screw; 1 pc), remove the Vertical print positioning HP sensor off the machine together with the sensor bracket.

Vertical print positioning HP sensor
Connector of the Vertical
print positioning HP sensor



0625



0626

5. Removing the Print positioning Intermediate Gear

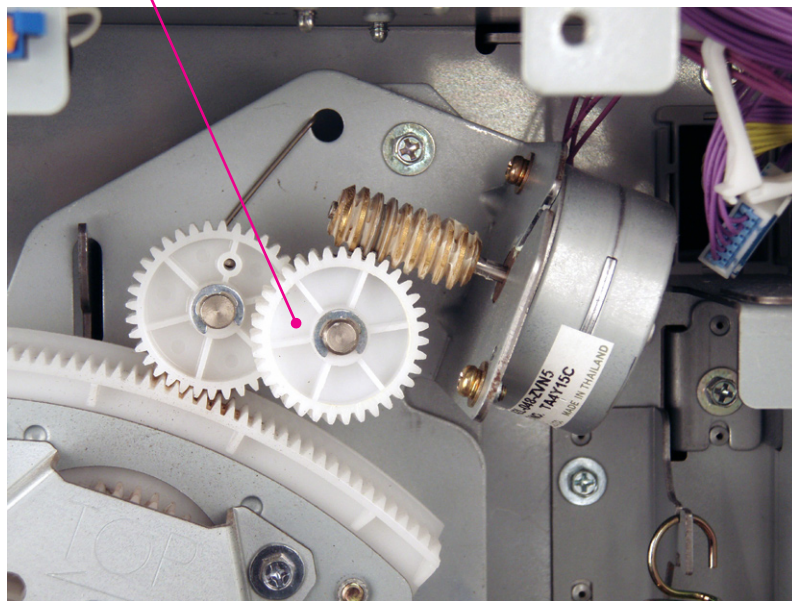
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Rear cover.
- (2) Open the PCB support plate of the Mechanical control PCB.
- (3) Remove the E-ring and remove the Print positioning intermediate gear.

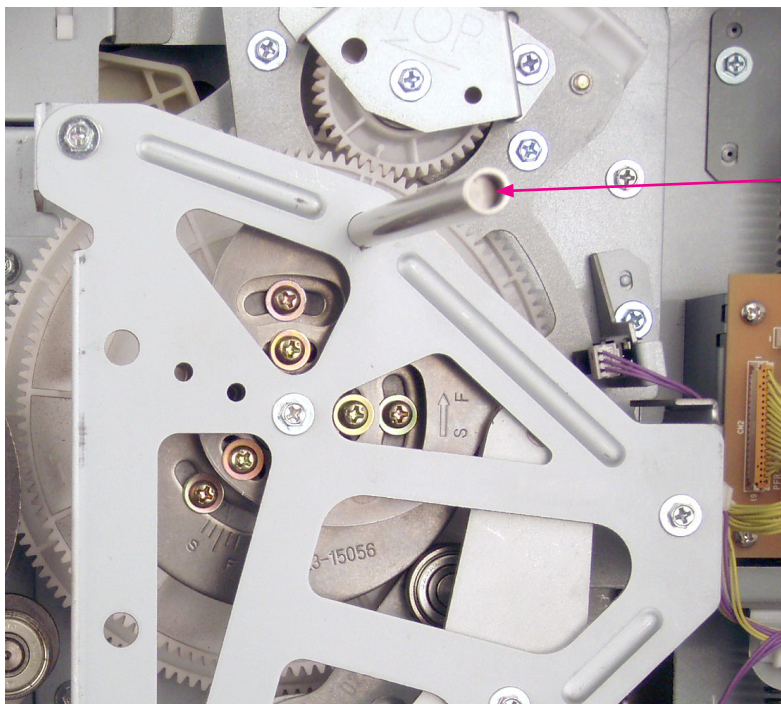
< Precautions in assembly >

When putting the Print positioning intermediate gear back on the machine, insert the 8mm diameter Jig shaft into the Position-B phase alignment hole on the paper feed area to align the gears in Position-B.

Print positioning intermediate gear



0627



Insert the 8mm diameter Jig shaft into the Position-B phase alignment hole on the paper feed area.

0628

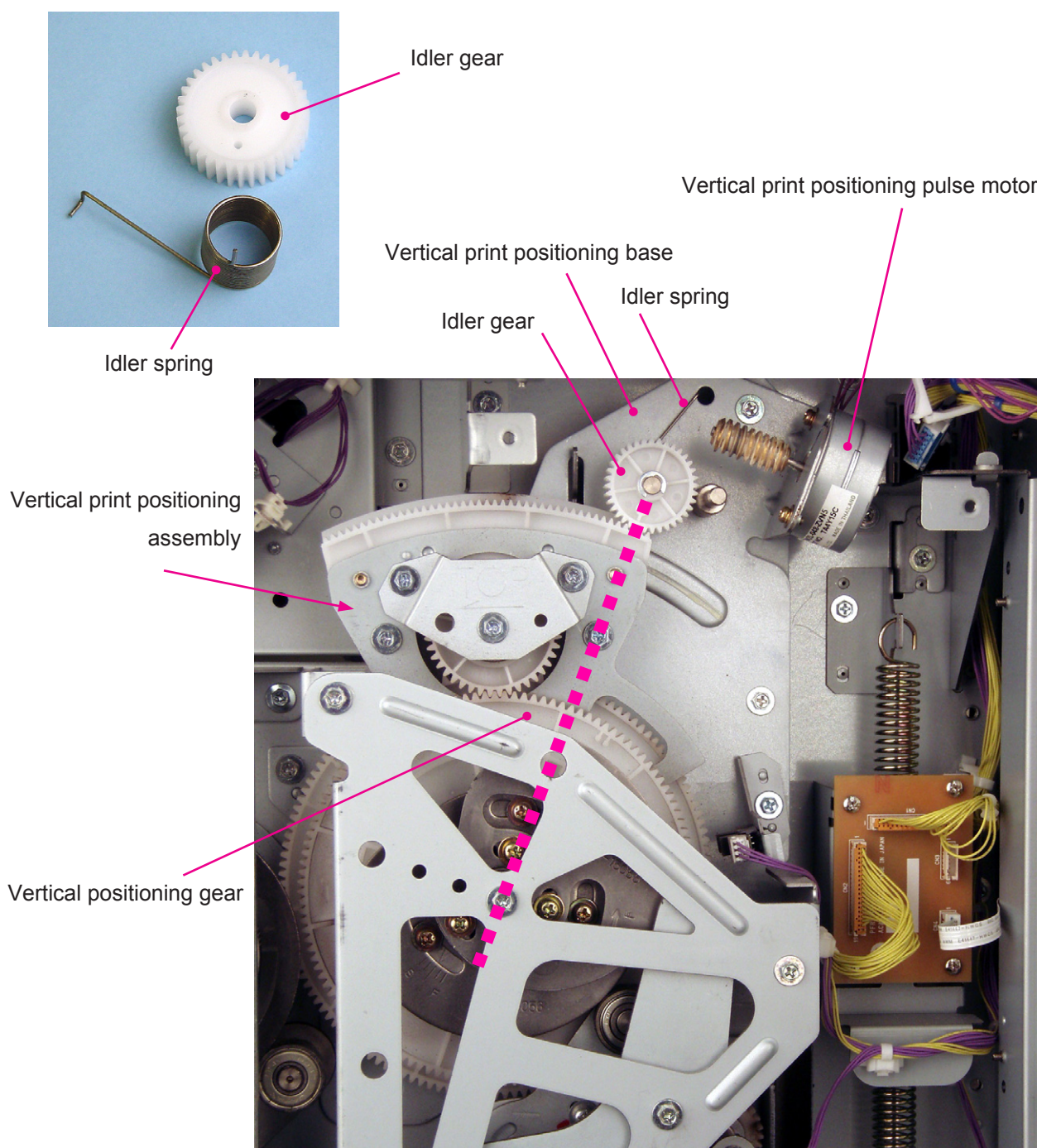
6. Removing the Idler Gear

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch OFF the machine power and remove the Rear cover.
- (2) Open the PCB support plate of the Mechanical control PCB.
- (3) Remove the Print positioning intermediate gear (Refer to page 6-13).
- (4) Remove E-ring and remove the Idler gear together with the Idler spring by unhooking the spring from the Vertical print positioning base.

< Precautions in assembly >

Insert the shorter end of the Idler spring into the Idler gear. Then swing the Vertical print positioning assembly in the counterclockwise direction until it stops. Mount the Idler gear with the small hole on the gear positioned down and the hole aligned in straight line with the center of the Cam shaft. Finally hook the longer end of the Idler spring onto the hole on the Vertical print positioning base.



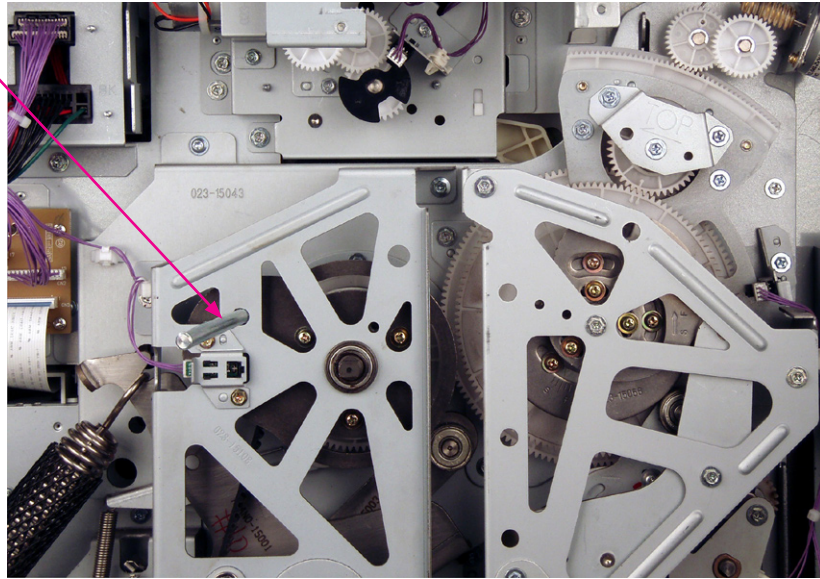
0630

7. Removing the Paper Feed Drive Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch off the machine power, remove the Rear cover, and then swing open the PCB bracket of the Mechanical control PCB.
- (2) Insert jig shaft (8mm diameter) into the Position-B phase alignment hole on the Main shaft assembly of the Main drive.

Jig shaft (8 mm diameter)
inserted into position-B
phase alignment hole on
the Main shaft assembly



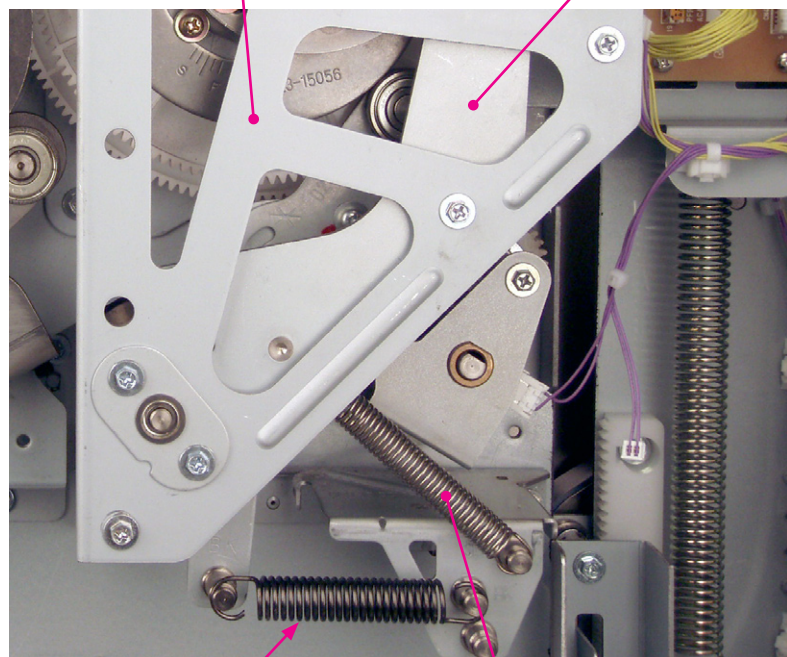
0626

- (3) Remove the following parts :
 - Sector gear spring
 - Guide roller pressure spring
 - Paper feed drive cover
 - Sector gear assembly

- Continues on next page -

Paper feed drive cover

Sector gear assembly

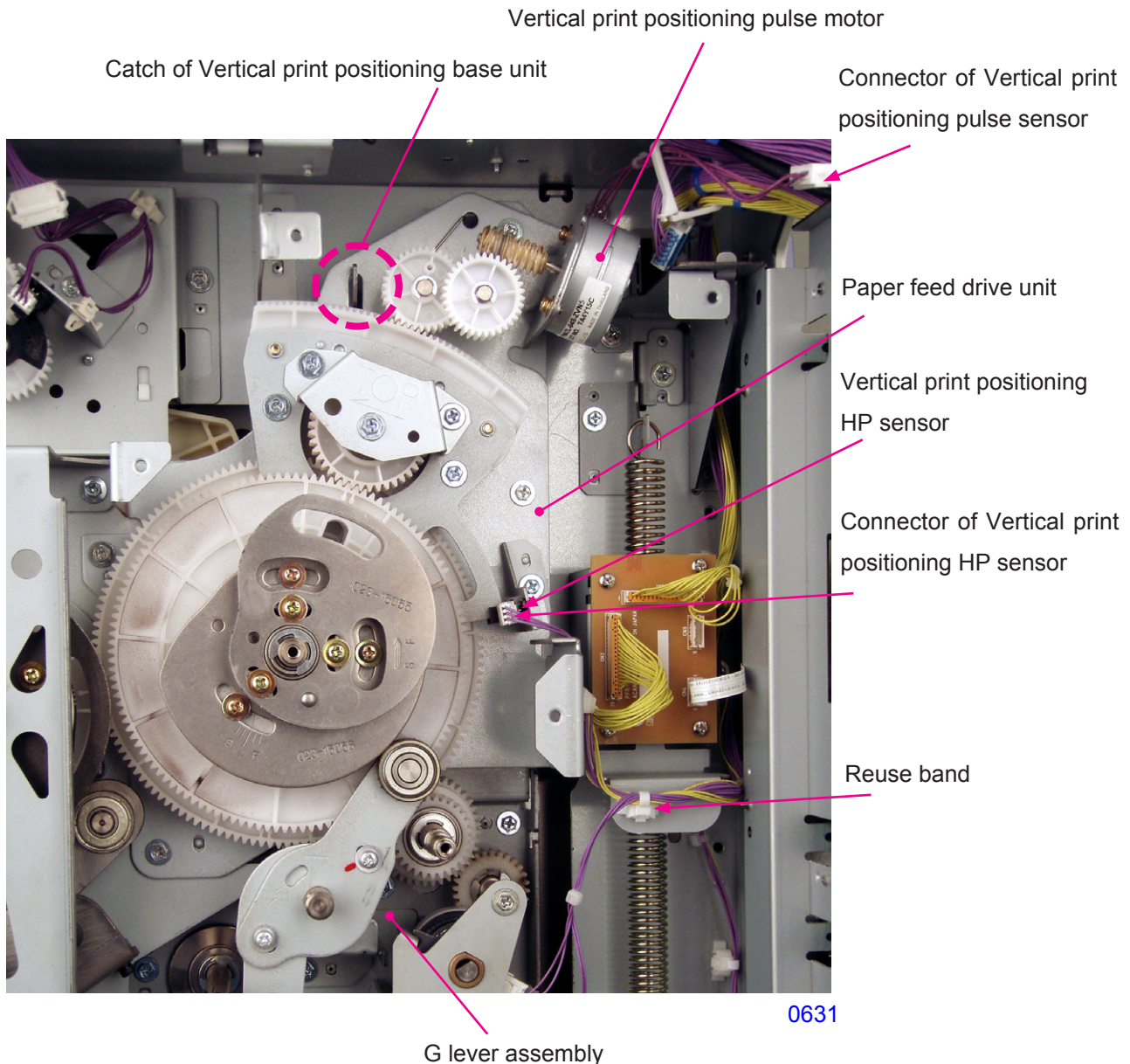


0628

Guide roller pressure spring

Sector gear spring

- (4) Remove screws (M4 x 8 screw; 2 pcs), and remove the G-lever assembly.
- (5) Unplug the connector of the Vertical print positioning pulse motor.
- (6) Unplug the connector of the Vertical print positioning HP sensor, and unhook the Reuse band.
- (7) Remove screws (M4 x 8 screw; 5 pcs) of the Paper feed drive unit. Then unhook the Paper feed drive unit from the machine while rotating the G-lever assembly to the right by hand, making a way for the unit to come out. Remove the unit from the machine.



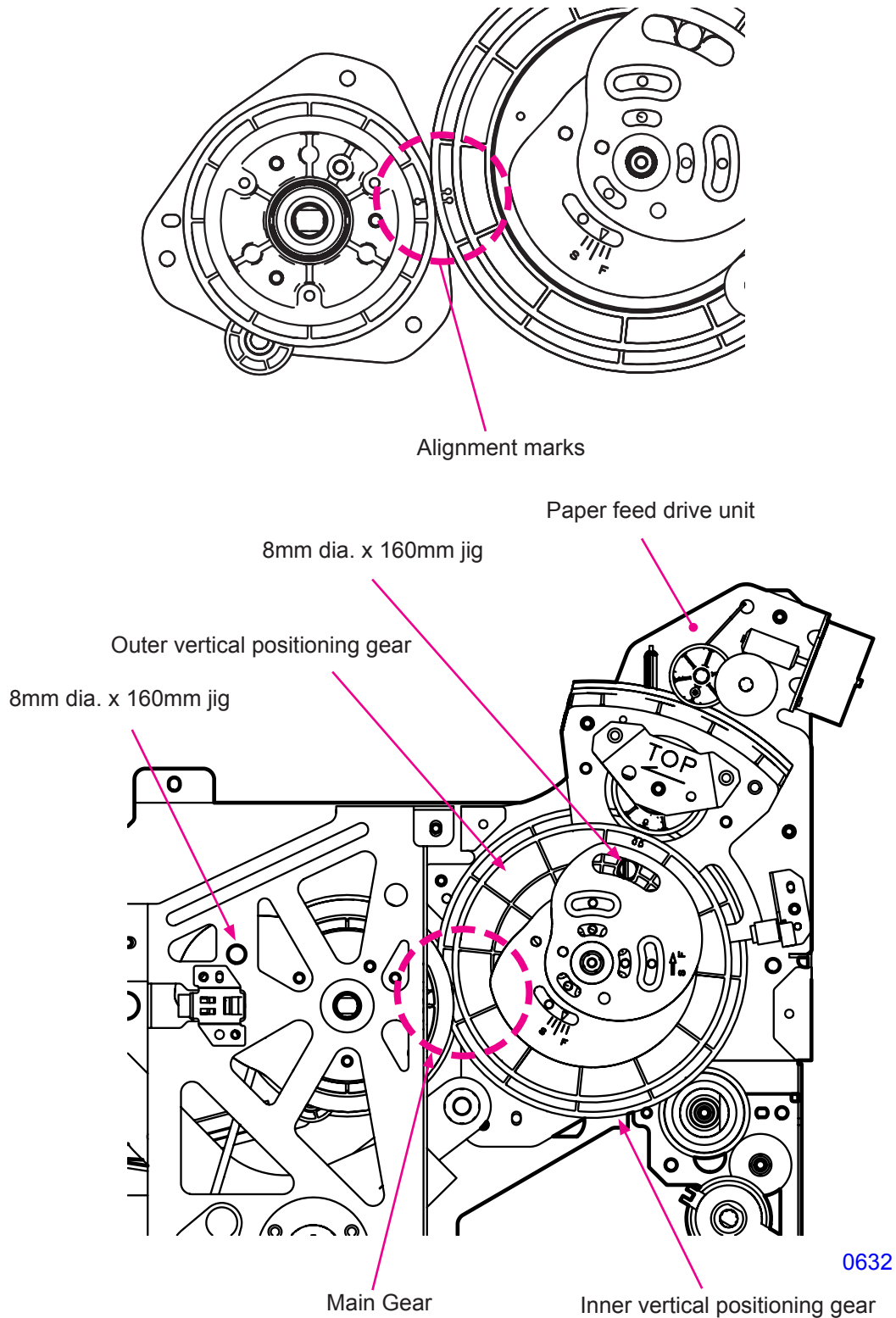
<Precaution on assembly>

Refer to the page on the [Adjustment: 1. G-lever assembly Mounting Position Adjustment] on page 6-19 for in mounting the G-lever back on the machine.

- Precaution on assembly continues on next page -

<Precaution on assembly>

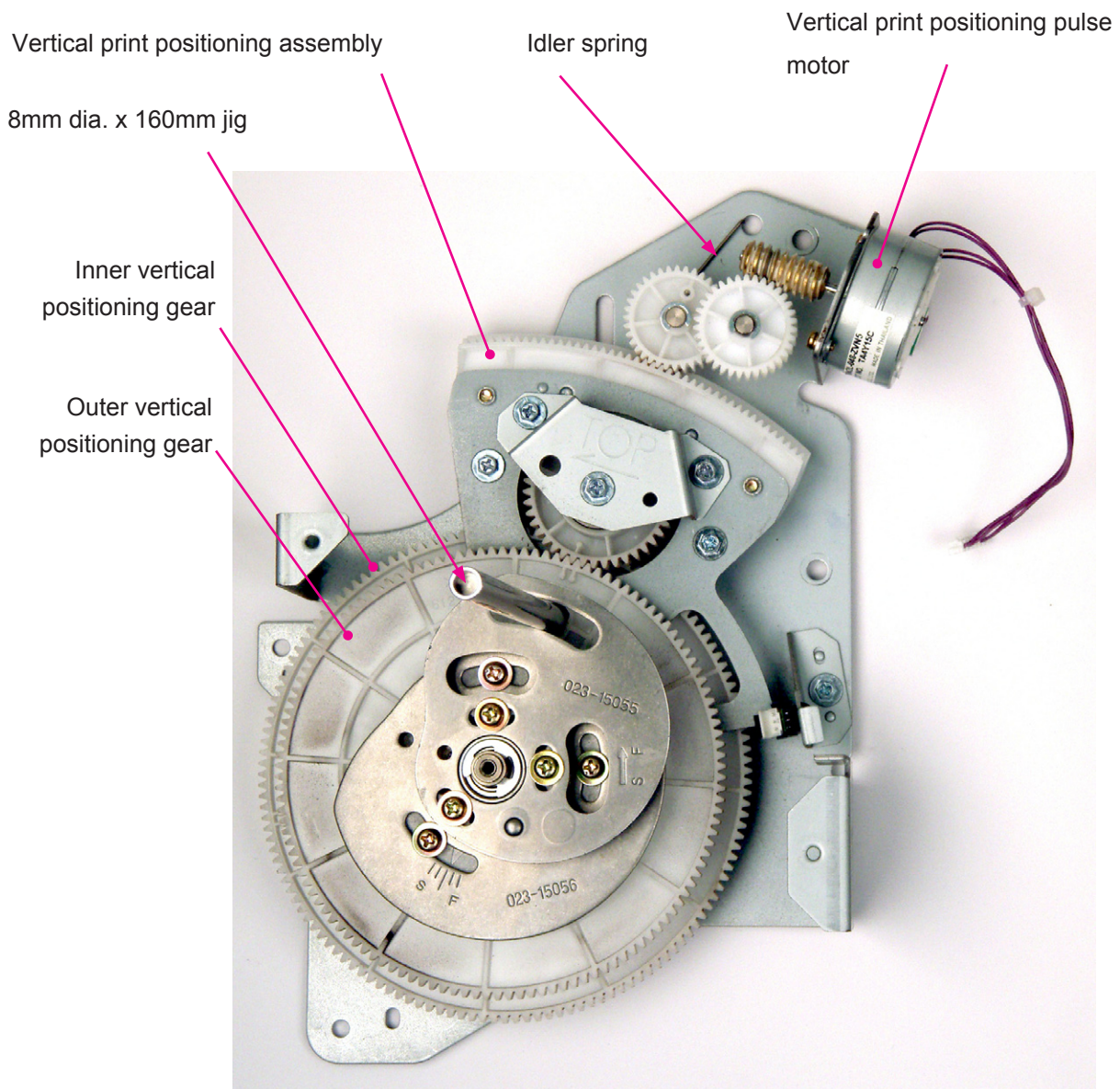
Mount the Paper feed drive unit on the machine so that one positioning mark on the Main gear aligns in between the two positioning marks on the Inner vertical positioning gear, making sure that 8mm diameter jig shafts are inserted into the Position-B phase alignment holes on the Main drive and Paper feed drive area to align all to the machine Position-B.



8. Removing the Print Positioning Pulse Motor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power, remove the Rear cover, and swing open the PCB bracket of the Mechanical control PCBs.
- (2) Remove the Paper feed drive unit from the machine.
- (3) To prevent the Idler spring from moving the Vertical print positioning assembly, insert 8mm diameter jig shaft into the Position-B phase alignment hole on the Paper feed drive unit.
- (4) Remove screws (M3 x 6 screw; 2 pcs) and remove the Vertical print positioning pulse motor.



< Paper feed drive unit >

0633

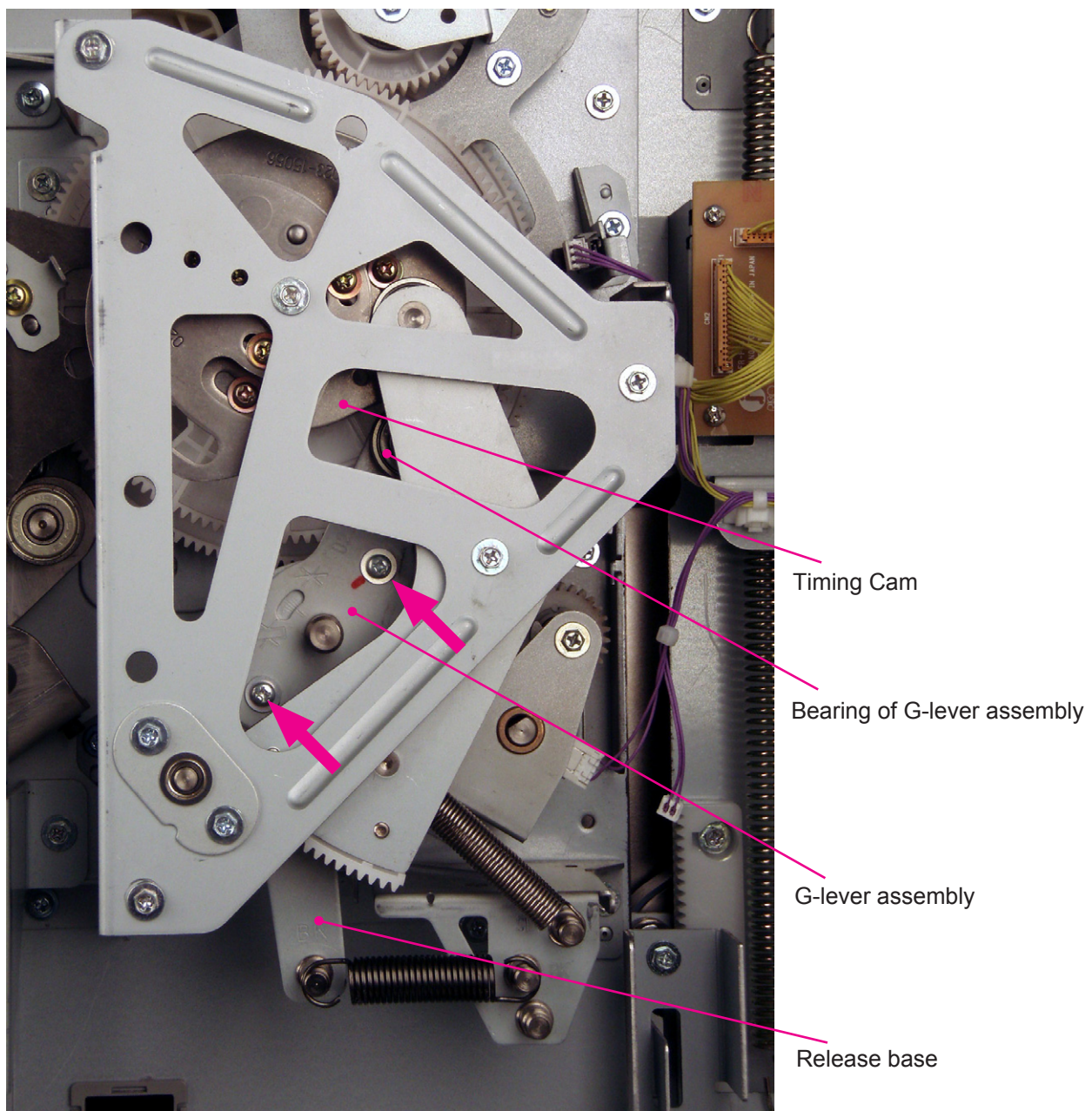
Adjustment

1. G-lever assembly Mounting Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Run Test mode No.889 (G-lever mounting position) and then switch OFF the machine power.
- (2) Remove the Rear cover.
- (3) Open the PCB support plate of the Mechanical control PCB.
- (4) Confirm that a gap between the Timing cam and Bearing of G-lever assembly is less than 0.3mm.
- (5) If this gap is out of specification, adjust the position of the G-lever assembly as described on the next steps (6) and (7).
- (6) Loosen the two screws on the G-lever assembly which mounts the G-lever onto the Release base.
- (7) Push the G-lever cam follower against the Timing cam and retighten the two screws, making sure that the G-lever cam follower is touching the Timing cam.



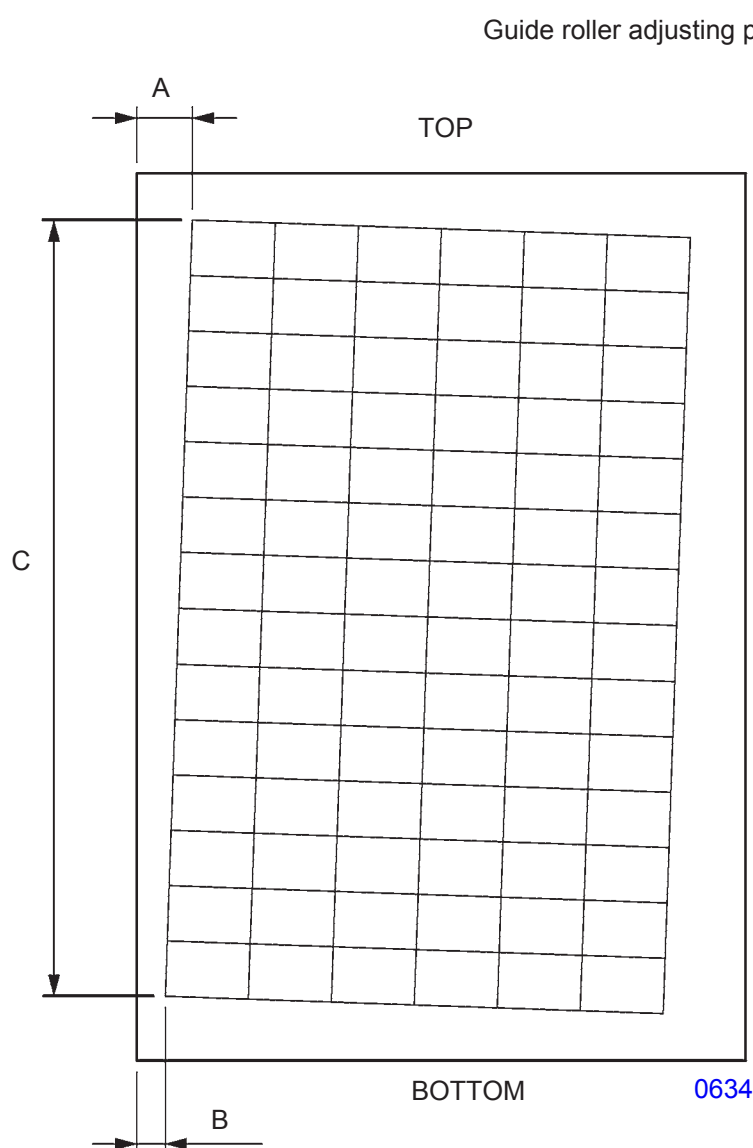
0619

2. Paper Feed Skew Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

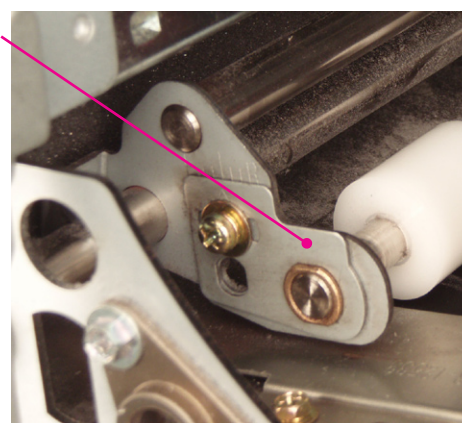
Checks and adjustment

- (1) Load A3-size papers on the Paper feed tray, run Test mode No. 81 to make cross-line image, and make 5 prints, and use the 5th print to check.
 - (2) Measure the distance (A) from the left edge of the paper to the first vertical line at the top of the sheet.
 - (3) Measure the distance (B) from the left edge of the paper to the first vertical line at the bottom of the sheet.
 - (4) Measure the total distance (C) from the top horizontal line to the bottom line on the left side of the sheet.
 - (5) Confirm that $(A - B) / C \times 100$ is less than 0.5%.
 - (6) If the skew is more than 0.5%, loosen one screw on the Guide roller adjusting plate and two screws on the Timing roller adjusting plate, and slide the two plates in the same direction in the same amount.
- * Moving the plates one graduation on the scale changes the paper skew by 0.25%.
- * Moving the plates in the F imprint direction moves the image at the bottom of the sheet to the right, and moving in the R imprint direction moves the image at the bottom of the sheet to the left.



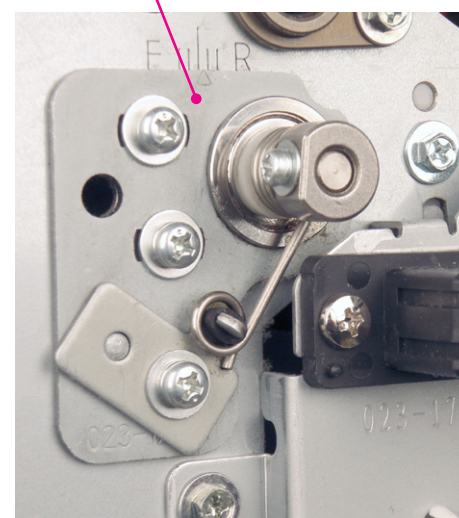
0634

Guide roller adjusting plate



0608

Timing roller adjusting plate



0621

3. Print Start Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Checks and adjustment

Important: Before making this adjustment, make sure that both the Master clamp range adjustment and Write start position adjustment are correctly adjusted. (Refer to the chapter on master making.)

- (1) Load A3-size papers on the Paper feed tray, run Test mode No. 80 to make checker-flag image, and make 10 prints at speed 3 and use the 10th print to check.
- (2) Measure the distance from the leading edge of the paper to the top of the image and confirm that the measurement is 4 mm plus/minus 1 mm.
- (3) If the length is out of the specified range, make adjust using Test mode No. 970 (Vertical print position HP adjustment).

4. Paper Sensor Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

When the Paper sensor is replaced, be sure to make the Paper sensor adjustment by activating Test Mode as given in the following steps.

Adjustment procedure

- (1) Place white (pure white color) sheet of paper, which the customer uses the most, in between the Paper sensor (send) and the Paper sensor (receive).
- (2) Go into test mode and run test mode No. 705 [Automatic paper sensor adjustment].
- (3) The adjustment ends automatically with the panel message [END]. After confirming this message, press the [C] key on the panel. <Still keep the machine in the test mode.>
- (4) Run test mode No. 722 and confirm that the panel display shows a number between 236 and 260 (248 plus/minus 12).
- (5) If correct number is achieved, the adjustment is finished. Remove the paper out from the machine.

MEMO

CHAPTER 7: PRESS SECTION

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4. Removing the Pressure HP Sensor.....	8
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Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

1. Press Mechanism

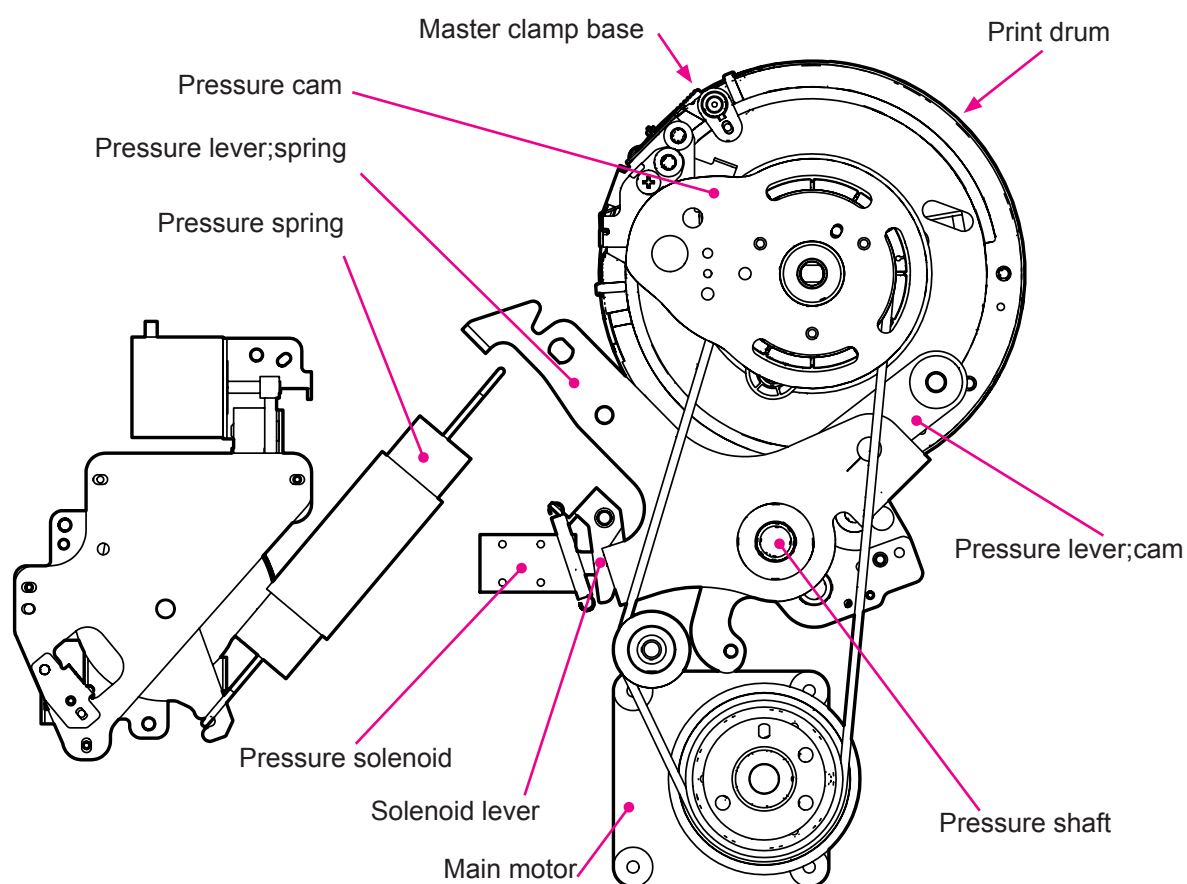
At the start of a printing job, the Pressure solenoid turns ON when the Print drum rotates to a given angle, and tries to unhook the Solenoid lever away from the Pressure lever;cam which is still engaged until the Print drum makes further rotation.

As the Print drum continues to rotate, the cam follower on the Pressure shaft;cam start to ride on the high portion of the Pressure cam, making the Pressure lever;cam to swing in the clockwise direction with its pivot on the Pressure shaft. As the lever starts to ride on the highest point on the cam, it touches and starts to swing the Pressure lever;spring in the clockwise direction. As the Pressure lever;spring swings in the clockwise direction with the pivot at the Pressure shaft, the Solenoid lever disengages and allows the Pressure solenoid to pull the Solenoid lever further in, completely disengaging it from the Pressure lever;spring.

As the Print drum rotates further, the Pressure lever;cam starts to ride on the lower portion of the Pressure cam, causing the lever to swing back in the counterclockwise direction. The Pressure lever;spring, freed from the Pressure lever;cam, is pulled by the Pressure spring to rotate in the counterclockwise direction, rotating the Pressure shaft in the counterclockwise direction together. The counterclockwise direction rotation of the Pressure shaft lifts the Pressure roller up and press against the Print drum.

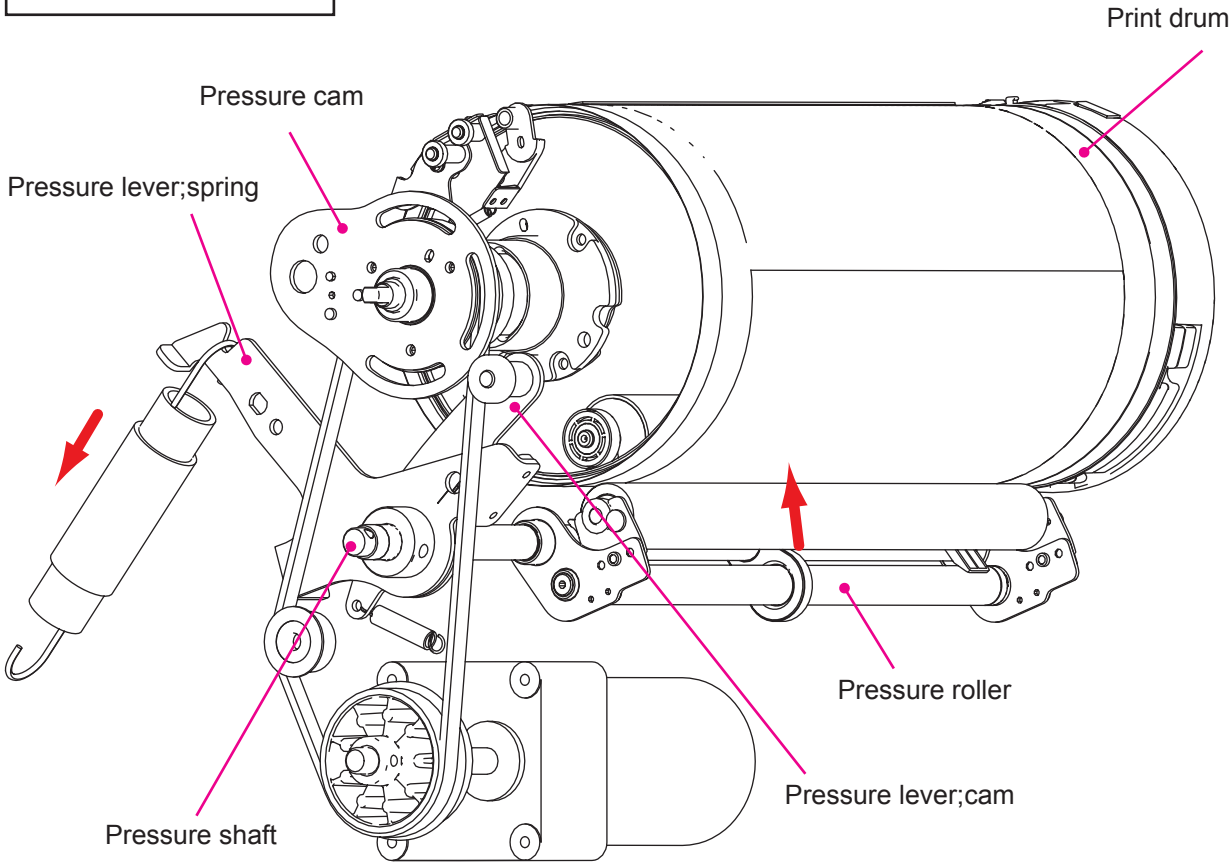
When the Master clamp base of the Print drum approaches the Pressure roller, the Pressure cam pushes the Pressure lever;cam in the clockwise direction and lowers the pressure roller so the roller does not hit the Master clamp base.

The Pressure solenoid is kept ON all through the printing job. The solenoid goes OFF when the Print drum comes to a given angle at the end of the printing job.



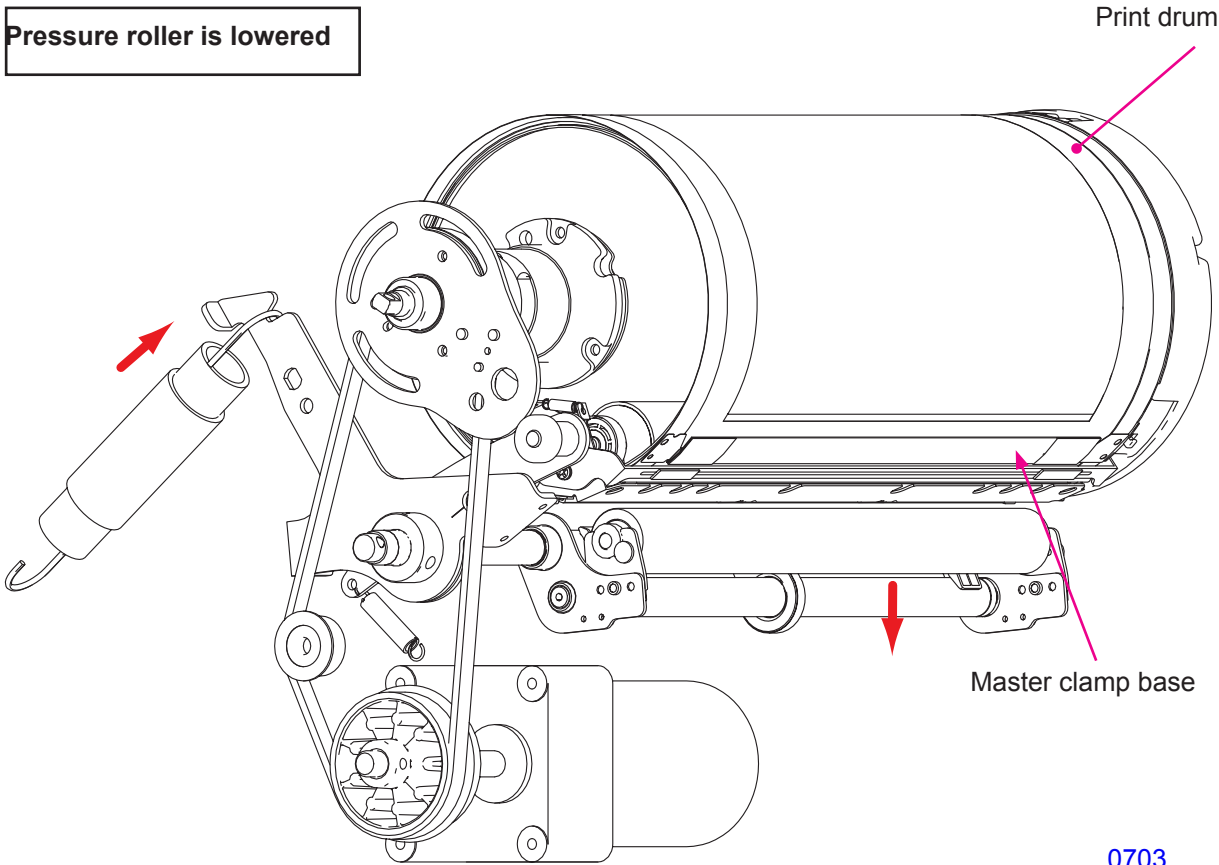
0701

Pressure roller is raised



0702

Pressure roller is lowered



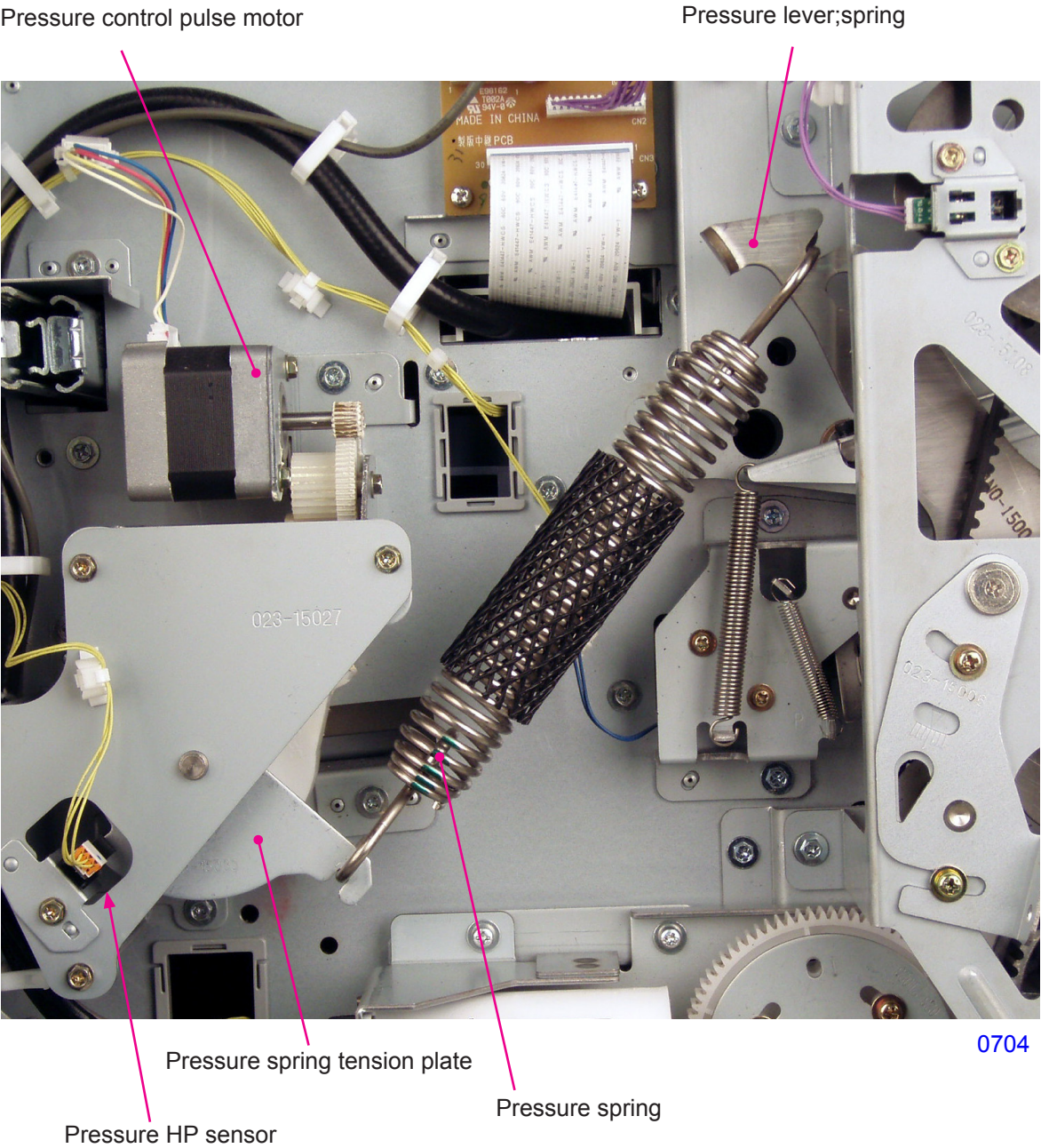
0703

2. Pressure Control Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	O	O	X	O	O

No pressure control mechanism on EZ2 & EV2.

Pressing the ◀ or ▶ button of the print density key on the Operation panel activates the Pressure control pulse motor and moves the Pressure spring tension plate. The movement of the Pressure spring tension plate changes the tension of the Pressure spring. This changes the amount of the pull applied on the Pressure lever;spring, and changes the print density by changing how hard the Pressure roller hits against the Print drum. The Pressure control pulse motor activates only when the machine is in motion. The printing pressure varies depending on the printing speed, print density settings, ink color, how long the Print drum was not used and internal temperature of the Print drum. The Pressure HP sensor detects the home position of the printing pressure.



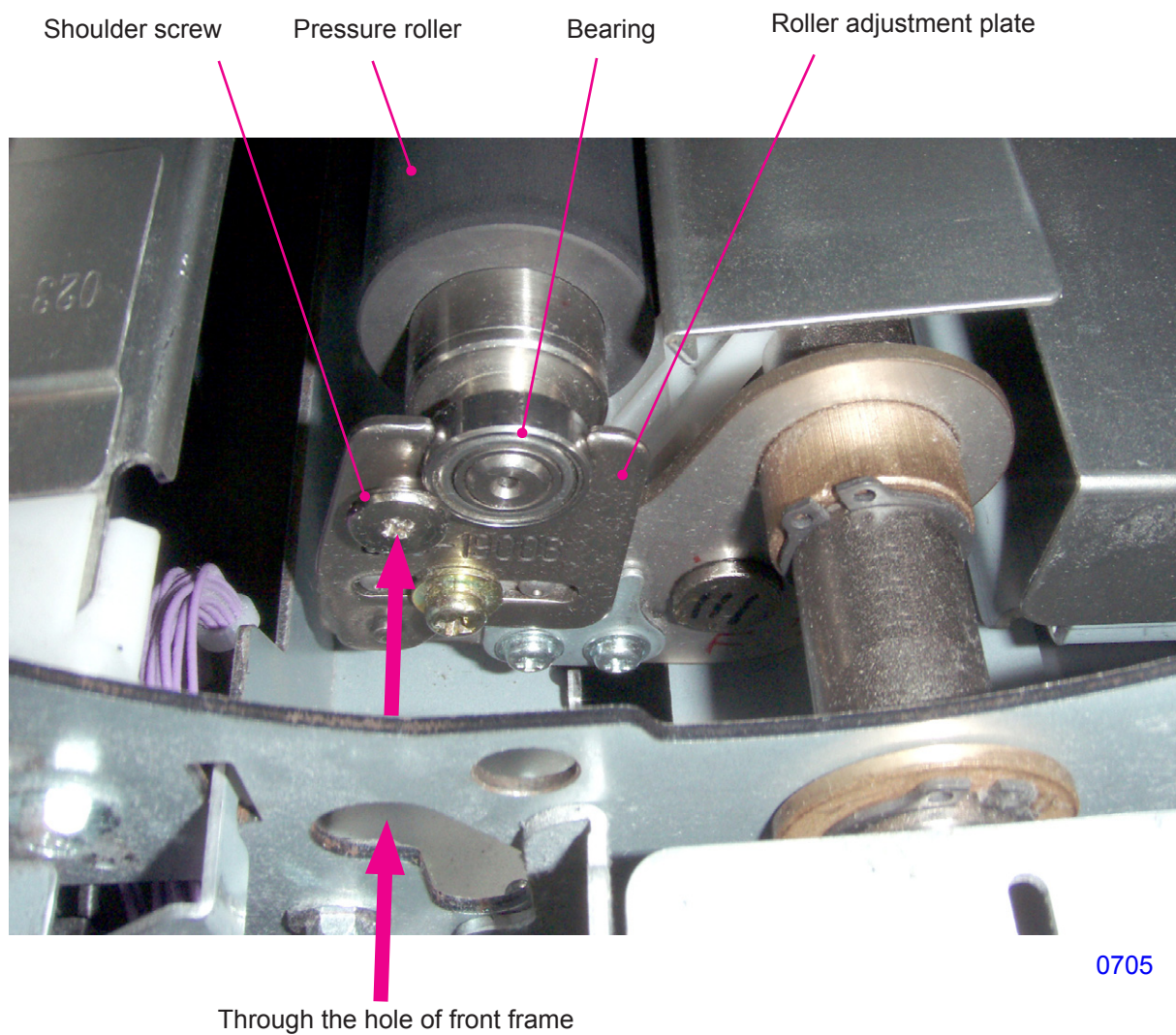
0704

Disassembly

1. Removing the Pressure Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Print drum and switch OFF the machine power.
- (2) Insert a screwdriver through the hole of the Front frame, and remove the Shouldered screw.
- (3) Pull the Pressure roller forward until the Bearing disengages from the Roller adjustment plate, and then lift the Pressure roller up to remove.



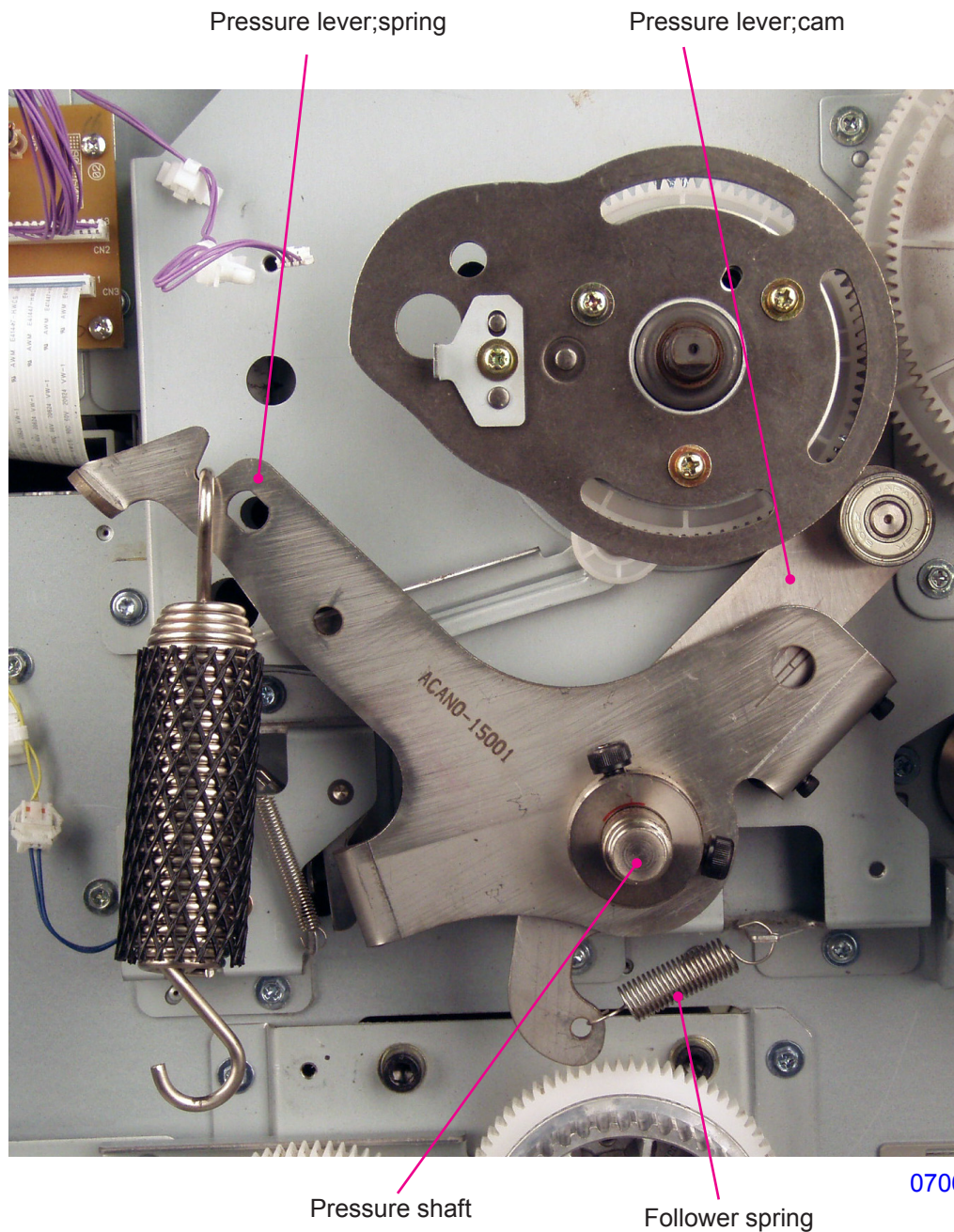
2. Removing the Pressure Lever:Spring & Pressure Lever;Cam

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Remove the Main belt.
- (2) Unhook the Follower spring.
- (3) Loosen Cap screws (M6 x 10 screw; 2 pcs), and remove the Pressure lever;spring and Pressure lever;cam from the Pressure shaft.

< Precaution in reassembly >

Make sure to adjust the mounting position of the Pressure lever;spring. (Refer to page 7-10)

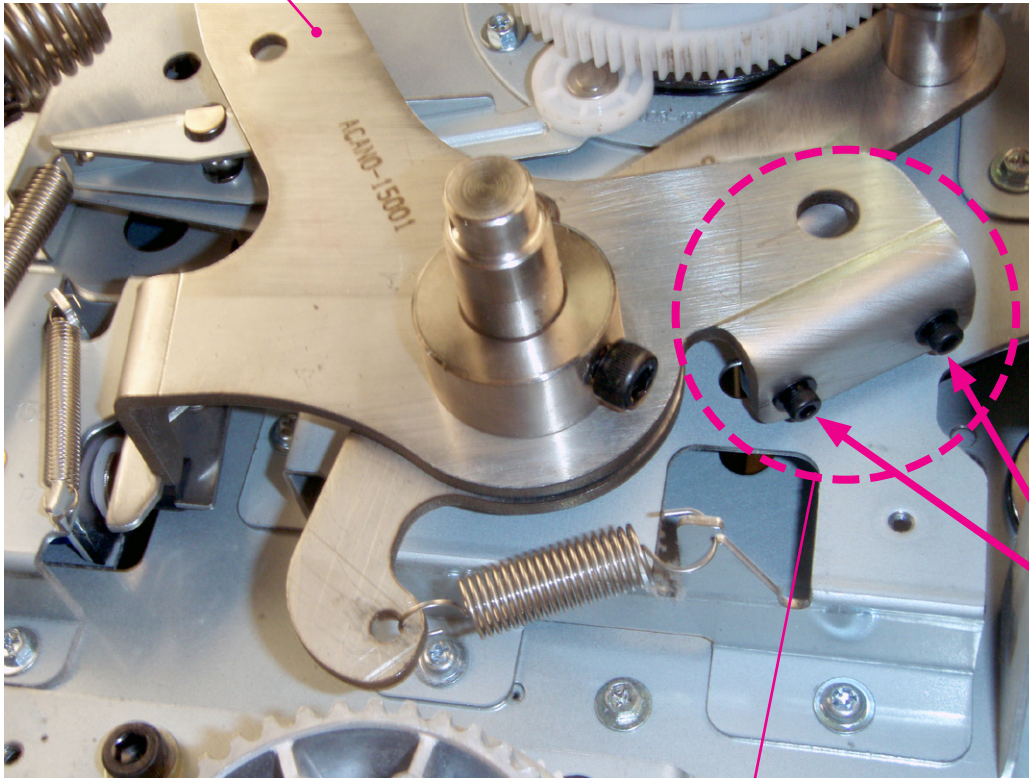


3. Removing the Pressure Lever Shock Absorber

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

- (1) Remove the Main cover assembly.
- (2) Remove Cap screws (M3 x 6 cap screw; 2 pcs) and then remove the Pressure lever cushion assembly.

Pressure lever;spring



Cap Screws

0707



Pressure lever cushion assembly

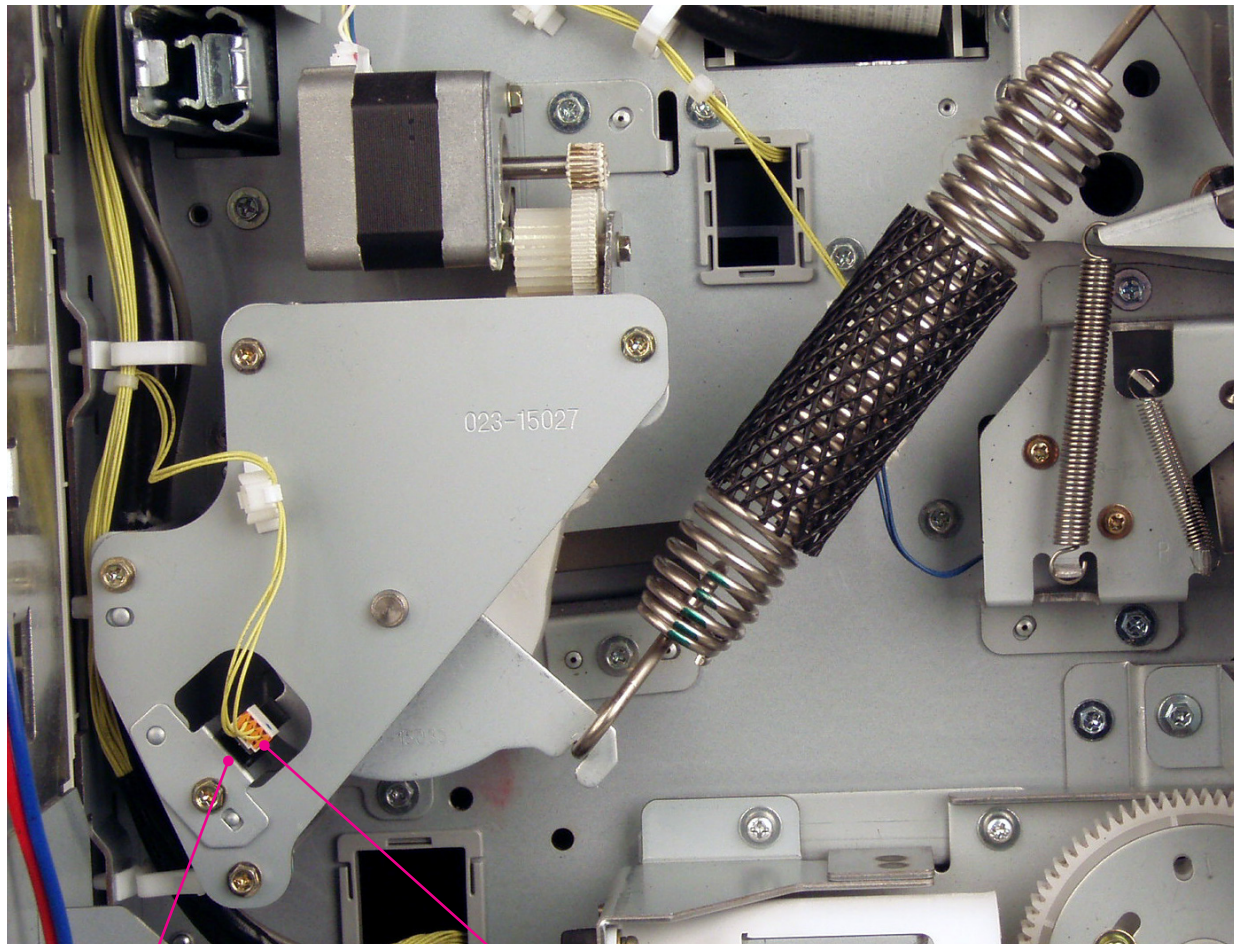
0708

4. Removing the Pressure HP Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	O	O	X	O	O

No pressure control mechanism on EZ2 & EV2.

- (1) Switch OFF the machine power, remove the Rear cover, and swing open the PCB bracket of the Power supply PCB.
- (2) Remove the Pressure HP sensor from the machine together with the sensor bracket by disconnecting the connector and a screw (M3 x 6 screw; 1 pc).



0704

Pressure HP sensor

Connector of the Pressure HP sensor

5. Removing the Pressure Control Pulse Motor

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	O	O	X	O	O

No pressure control mechanism on EZ2 & EV2.

- (1) Switch off the machine power, remove the Rear cover, and swing open the PCB bracket of the Power supply PCB.
- (2) Remove the Pressure spring.
- (3) Unplug the connector from the Pressure HP sensor and remove the Reuse band.
- (4) Unplug the connector from the Pressure control pulse motor.
- (5) Remove screws (M4 x 8 screw; 3 pcs), and remove the Pressure control unit from the machine.
- (6) Remove the Pressure control pulse motor from the Pressure control unit by removing screws (M3 x 6 screw; 2 pcs).

Connector of Pressure control pulse motor

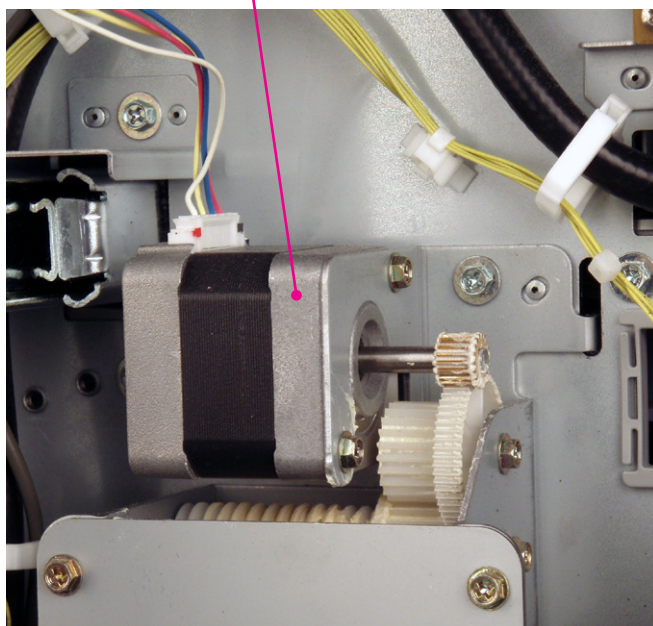
Pressure control pulse motor

Pressure control unit

Reuse band

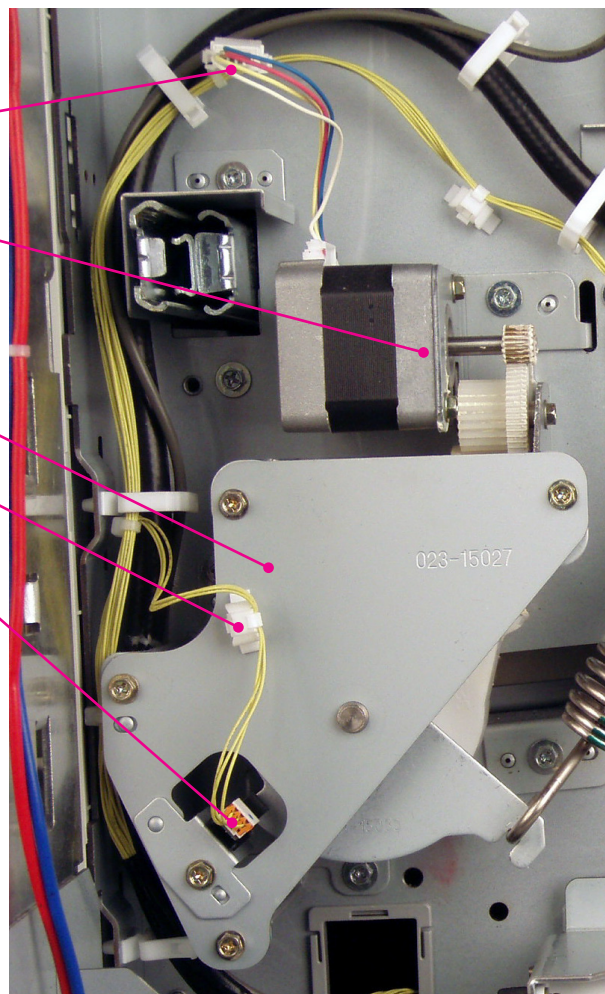
Connector of Pressure HP sensor

Pressure control pulse motor



Pressure control unit

0709



0704

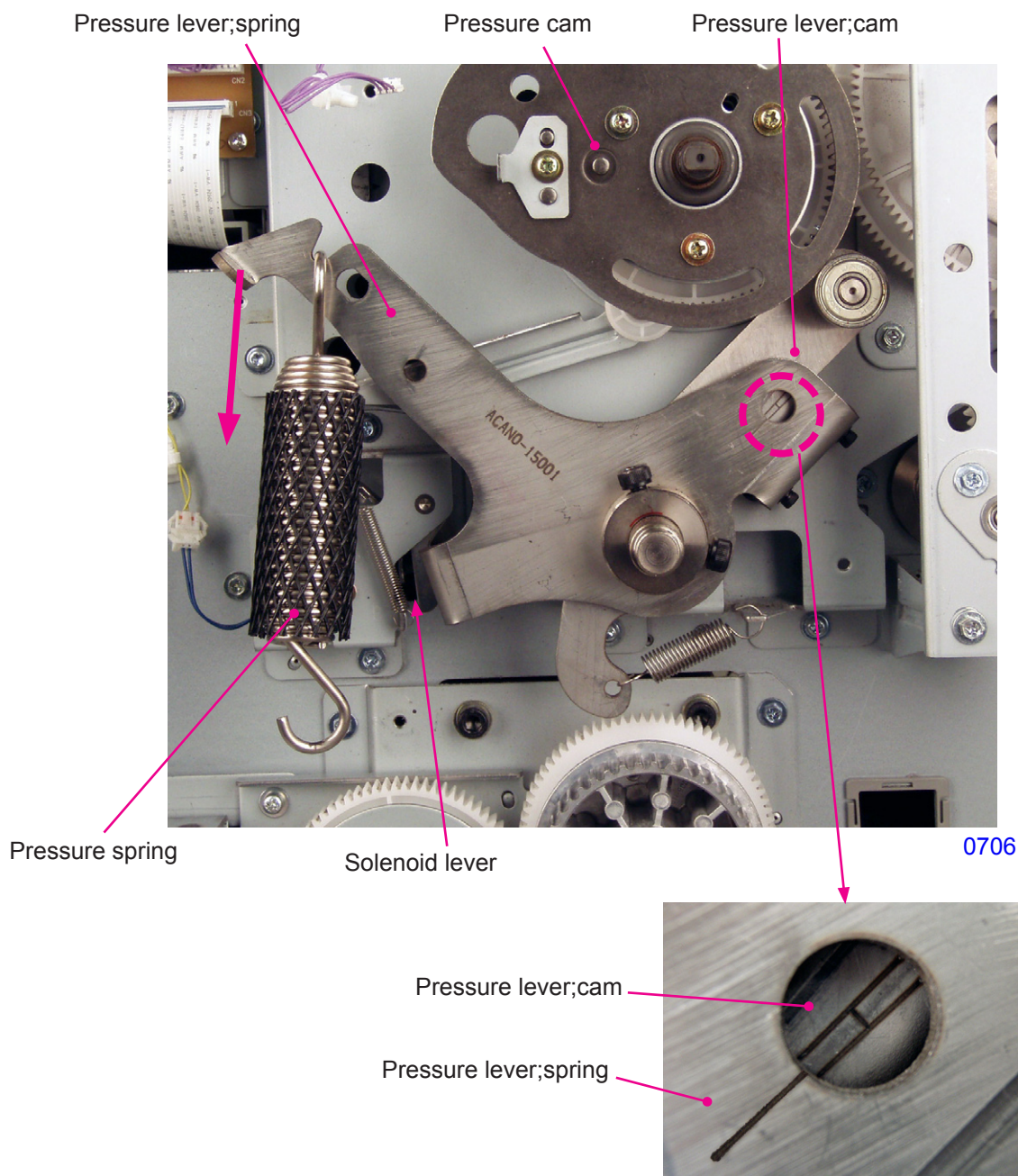
Adjustment

1. Mounting Position of the Pressure Lever

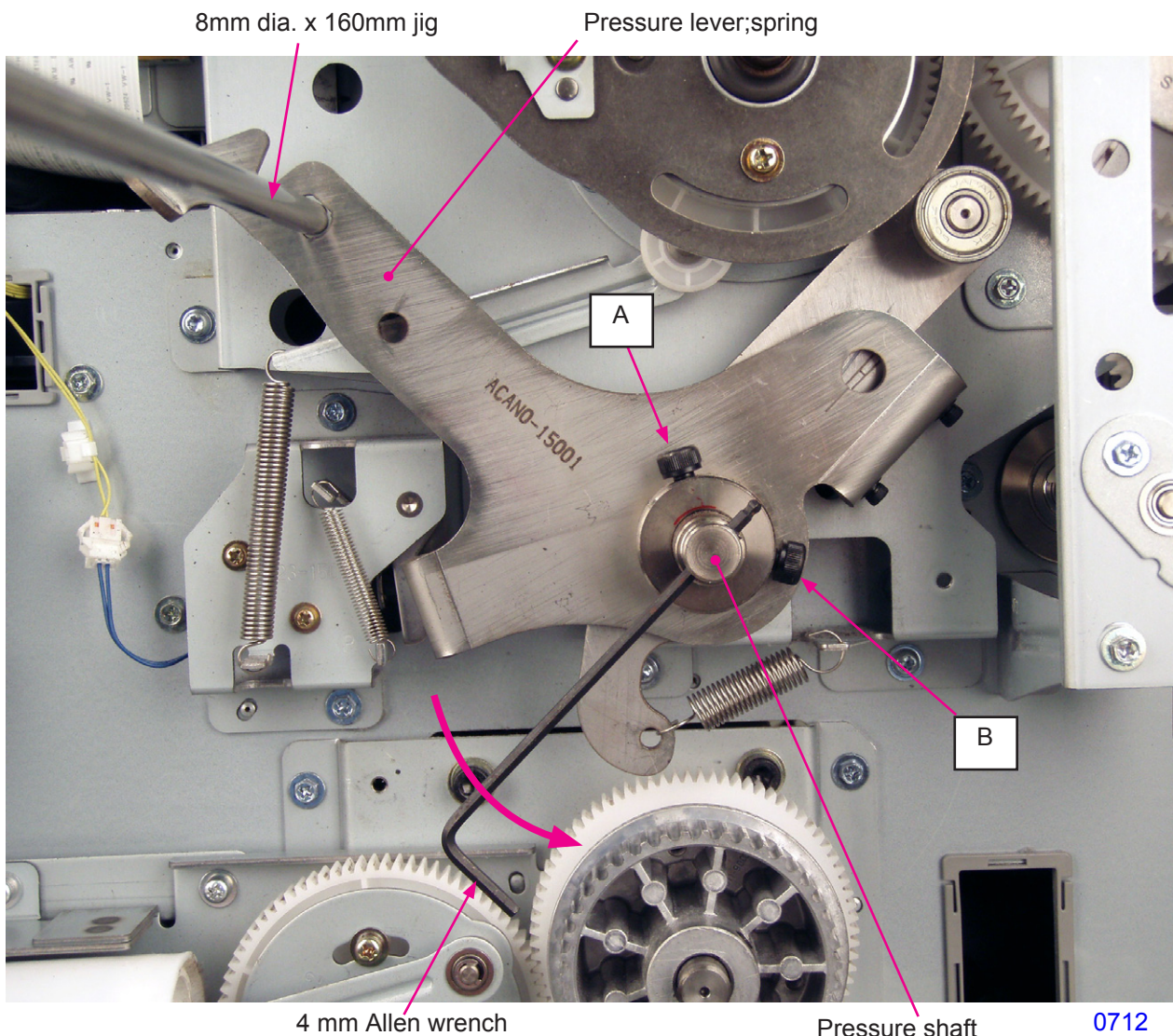
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Checks and adjustment

- (1) Switch OFF the machine power, remove the Rear cover, and swing open the PCB bracket of the Power supply PCB and Mechanical control PCB.
- (2) Remove the Main cover assembly. (Refer to Chapter 3)
- (3) Hook the Pressure spring onto the Pressure lever;spring and let the spring hang loose.
- (4) Unhook the Solenoid lever from the Pressure lever;spring and allowing the Pressure roller to contact the Print drum by the weight of the Pressure spring hooked on the Pressure lever;spring.
- (5) With the cam follower of the Pressure lever;cam touching the pressure cam, confirm that the engraved line on the Pressure lever;spring aligns in between the two engraved lines on the Pressure lever;cam.



- (6) If step (5) is out of the specification, remove the Pressure spring and loosen the two Cap screws on the Pressure lever;spring.
- (7) Align the hole on the Pressure lever;spring with the position-B phase alignment hole, and insert the 8mm diameter JIG shaft through the two holes to fix the position of the Pressure lever;spring in position.
- (8) Insert a 4mm Allen wrench through the hole on the tip of the Pressure shaft and rotate the Allen wrench in the counterclockwise direction as shown on the photograph below, so the Pressure roller touches the Print drum very lightly. Tighten the two Cap screws on the Pressure lever;spring while pushing the Pressure lever;spring towards the machine frame. Tighten Cap screw A first and then B.
- (9) Recheck whether the Pressure lever;spring is attached in a correct position or not by repeating steps (3) to (5) on the previous page and if the position is still incorrect, repeat the adjustments listed from (6) to (8) on this page.



Symptoms

- If the engraved line on the Pressure lever;spring goes out to the left of the two lines on the Pressure lever;cam, the pressure will be too weak and the printing density may become too light. Also the up-and-down motion of the Pressure roller is out of the correct timing, and it may result in ink leakage from the Print drum.
- If the engraved line on the Pressure lever;spring goes out to the right of the two lines on the Pressure lever;cam, the pressure is too strong. Also, the distance in which the Pressure roller escapes from the Clamp plate base assembly becomes less, and the Pressure roller may hit the Clamp plate. In addition to the too much pressure, the up-and-down motion of the Pressure roller becomes out of timing, and may result in ink leakage from the Print drum.

MEMO

CHAPTER 8: PAPER EJECTION SECTION

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Mechanism

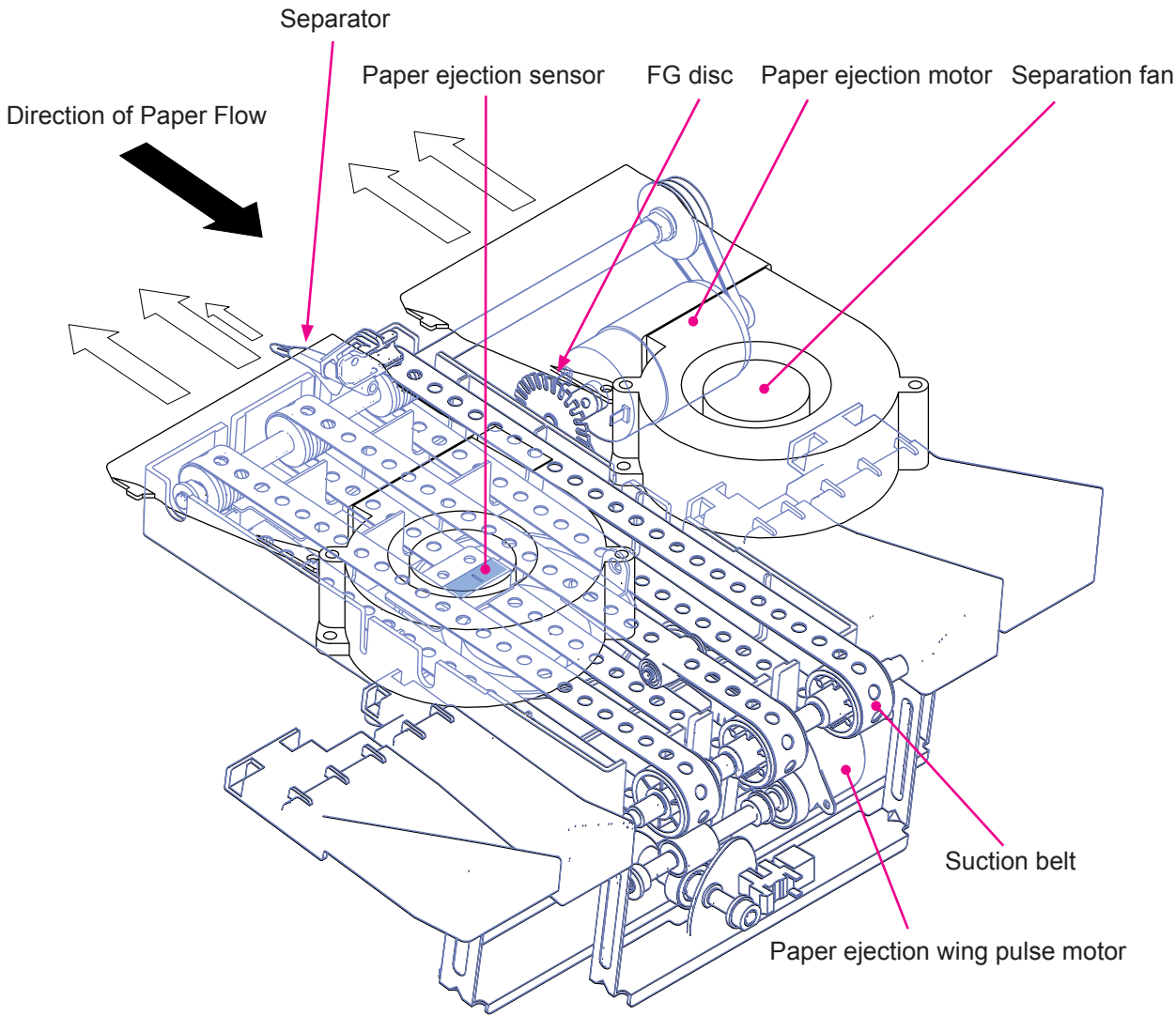
1. Paper Ejection Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	0	0	#	0	0

Only one separation fan on EZ2 & EV2.

The printed paper is removed from the Print drum by the Separator, and air blown from the Separator and two Separation fans. The papers are then ejected out on the Paper receiving tray by the Suction belts.

The Suction belts are driven by the Paper ejection motor, and Suction fan located under the Suction belts pulls the papers onto the Suction belts. There is a Paper ejection sensor on the Suction unit to confirm whether the paper is correctly received from the Print drum and ejected out on the Paper receiving tray. The FG sensor disc on the shaft of the Paper ejection motor is monitored by the Paper ejection motor FG sensor to check the motor rotation speed to ensure that the Suction belts are driven at a speed faster than the circumferential speed of the Print drum for smooth paper transfer from the Print drum onto the Paper receiving tray.



0801

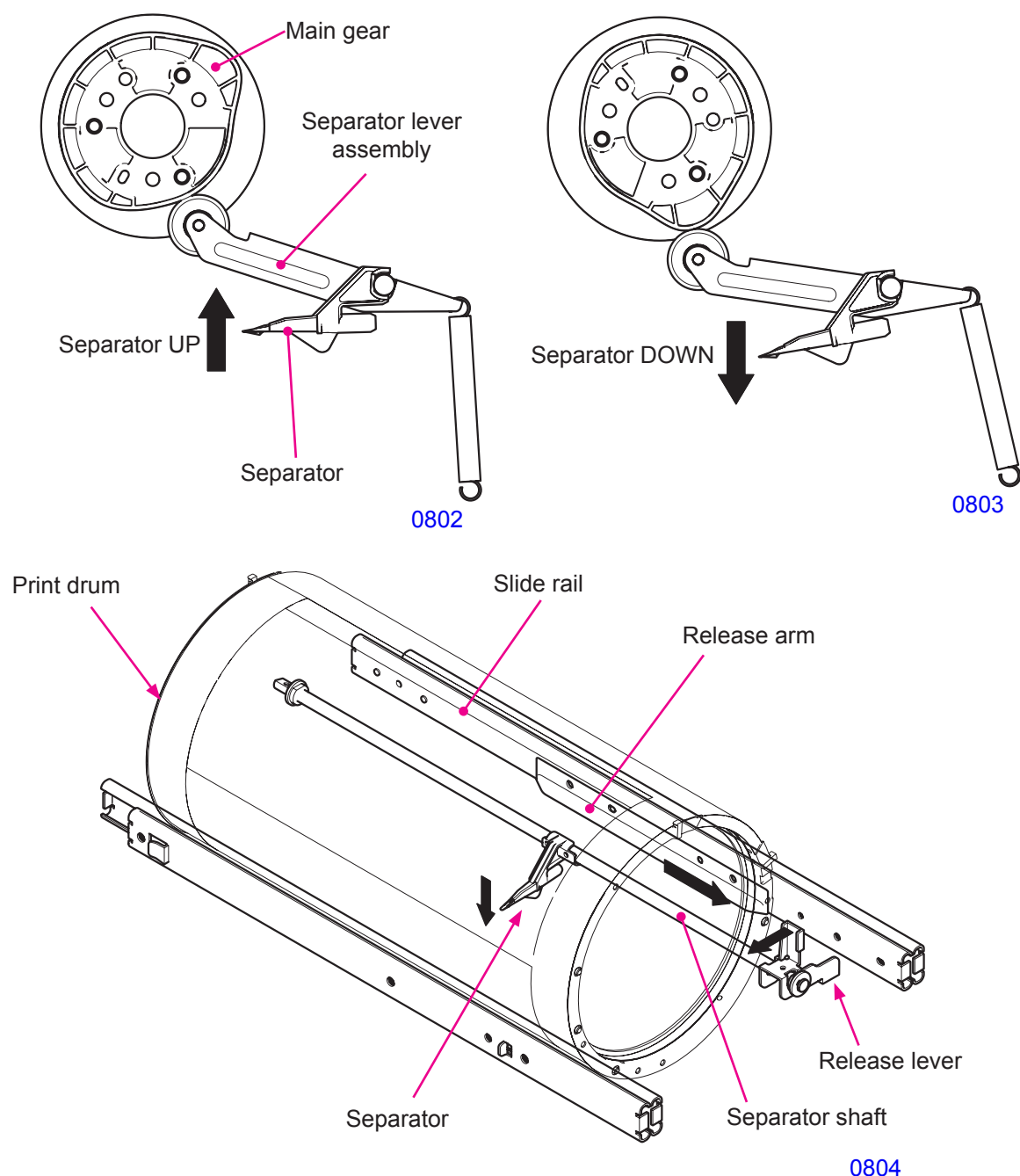
2. Paper Separator Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

The tip of the Separator is positioned close to the Print drum surface when separating the paper from the Print drum. As the Print drum rotates and the Clamp plate base approaches the Separator, the cam follower on the Separator lever assembly rides on the high part of the cam, which is attached behind the Main gear.

The high part of the cam on the Main gear pushes the Separator lever assembly down. This action rotates the Separator shaft and brings the tip of the Separator down, away from the Print drum to clear the Clamp plate base on the Print drum.

During the removal and insertion of the Print drum into the machine, the tip of the Separator needs to move away from the Print drum to prevent being hit by the Print drum. Release arm attached on the Slide rail pushes the Release lever and rotates the Separator shaft to move the tip of the Separator down, away from the Print drum during the Print drum removal and insertion.

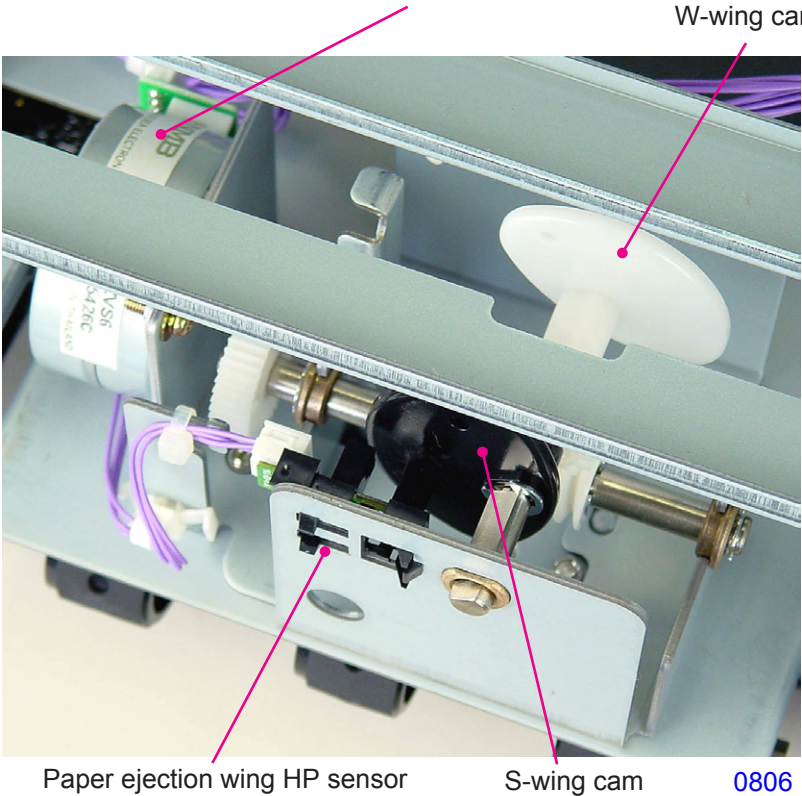
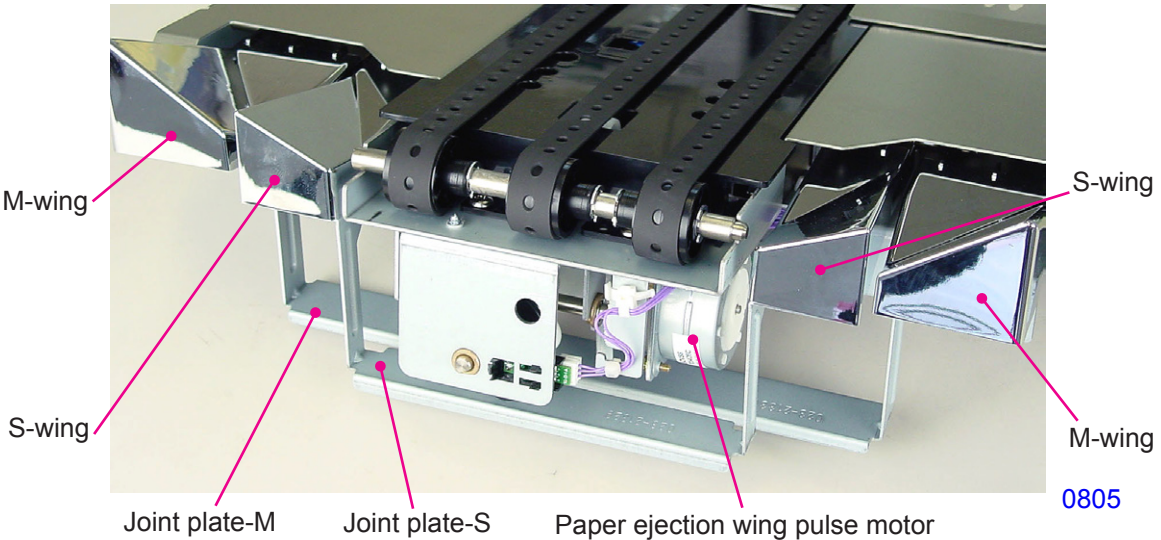


3. Paper-Ejection-Wing Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	#	O	#	#	O

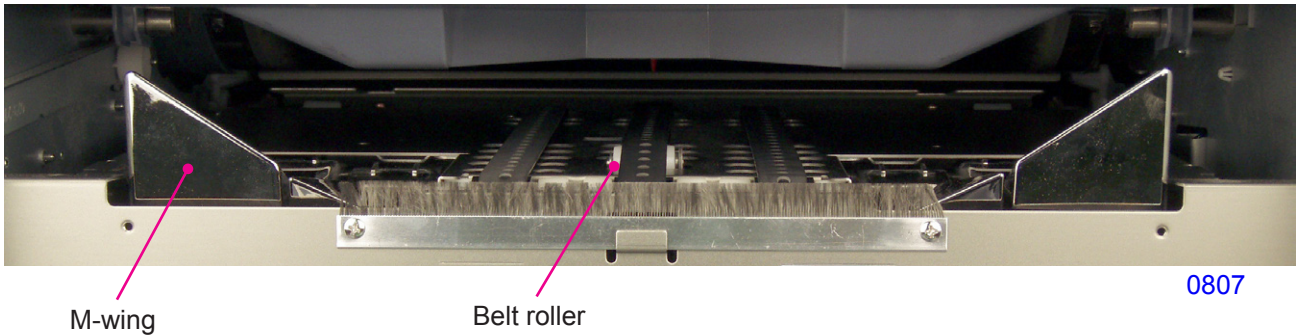
Manual wing movement on EZ3 & EV3.
Fixed position wings on EZ2 & EV2.

The position of the paper ejection wings are automatically selected by the size of the paper. The wing position is changed by the M-wing cam and S-wing cam, both rotated by the Paper ejection wing pulse motor. The M-wing cam lifts or lowers the two M-wing by moving the Joint plate-M up or down. The S-wing cam lifts or lowers the two S-wing by moving the Joint plate-S up or down. The Paper ejection wing HP sensor detects the home position of the wings. Four wing positions exist. Of the four positions, the three positions are determined by the width of the paper on the Paper feed tray, and the Paper feed pressure lever position. The fourth position, which is the custom paper ejecting position, is effective only after the field serviceman inputs data using test mode No. 780 (Paper ejection wing fixed position). The Paper Feed Adj. setting from the Functions tab on the operations panel has no link with the paper ejection wing position.



Automatic paper-ejection-wings <EZ5 & EV5 Only>

- (1) Both the M-wing and Belt roller are at high position, and S-wing is lowered. This wing position is when the Paper feed pressure levers is set to NORMAL and the paper width is wider than B4/Legal. (Equivalent to 1,434 pulses.)



- (2) Both the M-wing and Belt roller is at low position, and S-wing is raised. This wing position is when the Paper feed pressure levers is set to NORMAL and the paper width is narrower than B4/Legal. (Equivalent to 717 pulses.)

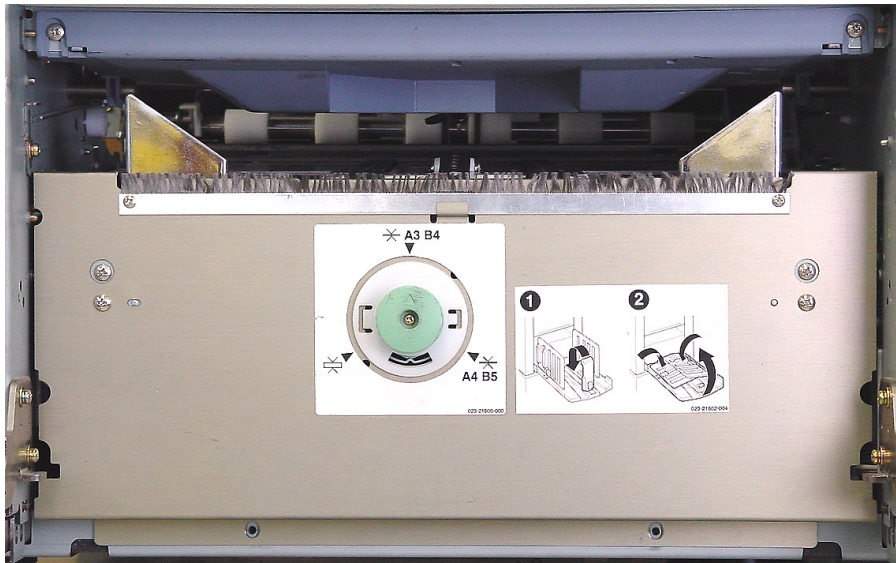


- (3) The M-wing, Belt roller and S-wing are all at low position. This wing position is when the Paper feed pressure levers is set to CARD for any paper size. (Equivalent to 0 pulse: Home Position.)

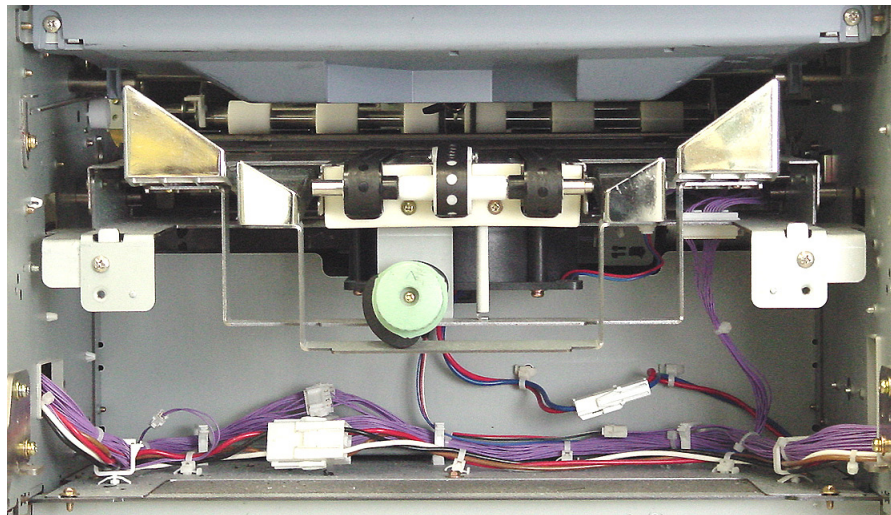


- (4) Custom paper ejection wing position, to be set by a field serviceman by Test Mode No. 780 (Paper ejection wing fixed position selection). When the serviceman inputs values on Test Mode No. 780, the machine operator will be able to select this fixed wing position from the Operation panel through the [Jump Wing Control] key.

Manual paper-ejection-wings <EZ3 & EV3 Only>

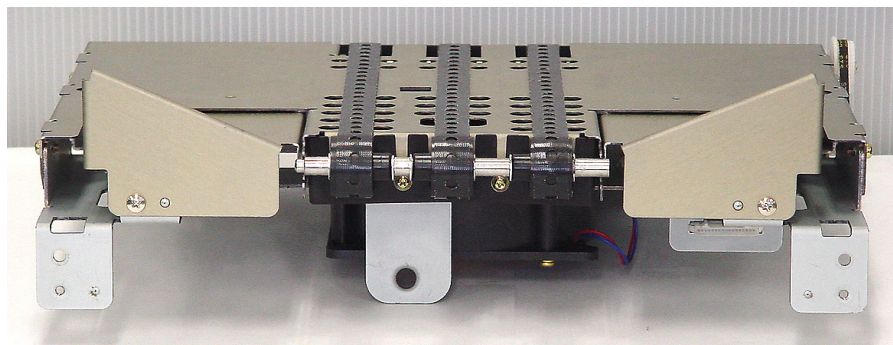


0838



0839

Fixed paper-ejection-wings <EZ2 & EV2 Only>



0840

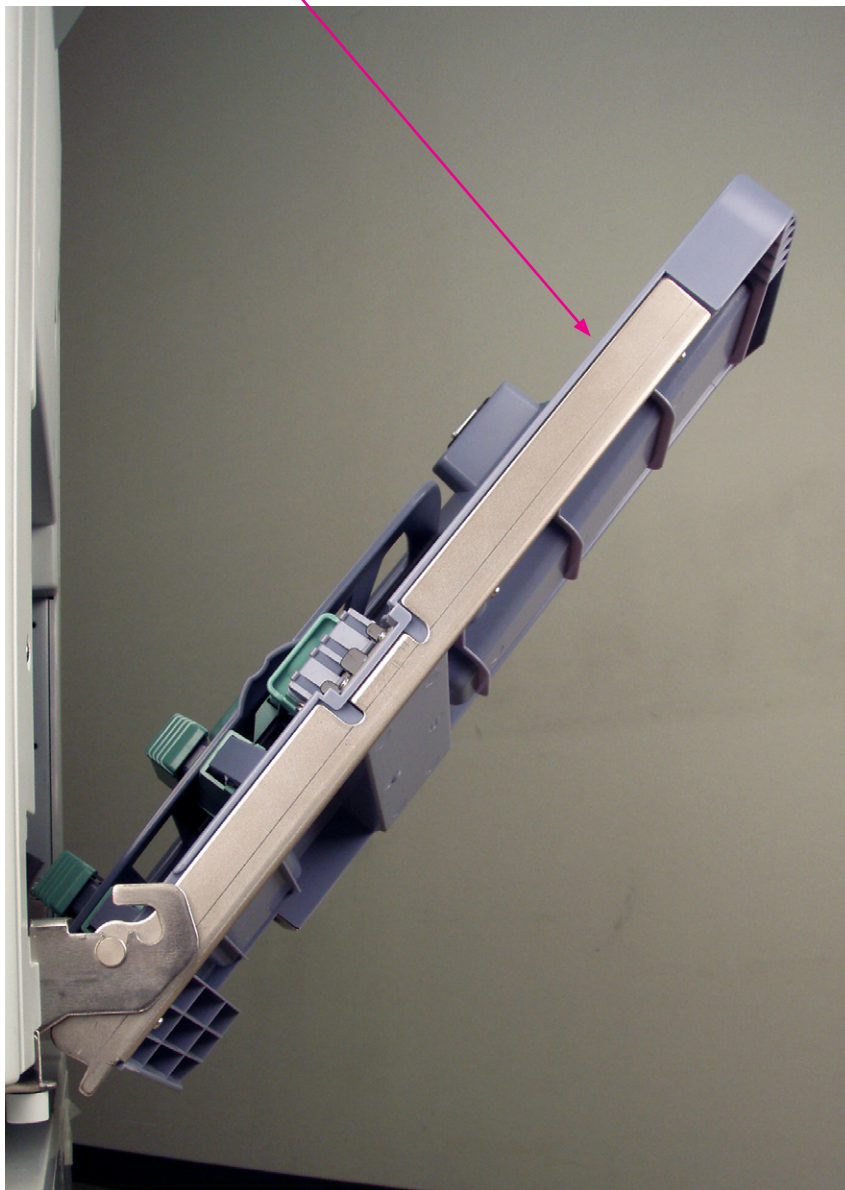
Disassembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

1. Removing the Paper Receiving Tray

- (1) Open the Paper receiving tray to an angle of about 45 degrees and lift it vertically upwards to remove from the machine.

Paper receiving tray



0810

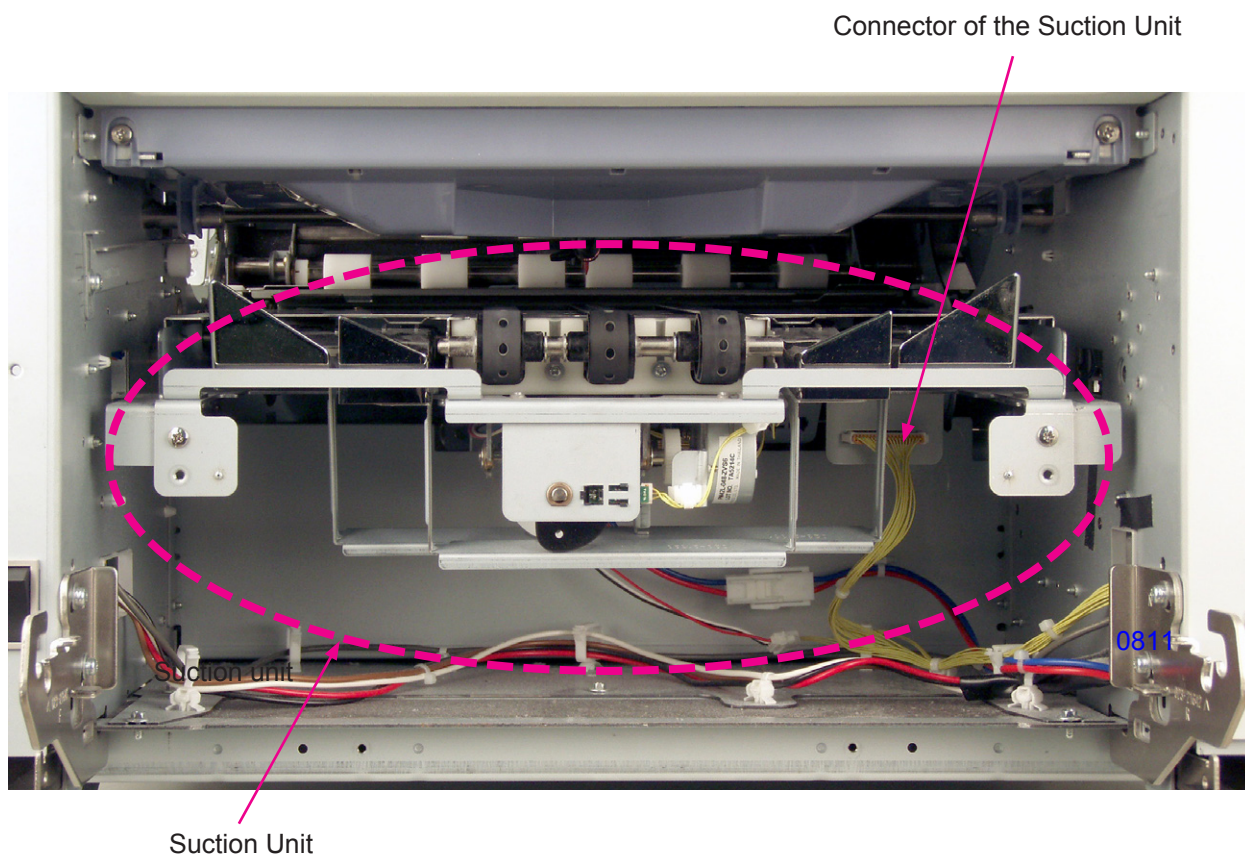
2. Removing the Suction Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	#	O	#	#	O

Manual wing movement on EZ3 & EV3.
Fixed position wings on EZ2 & EV2.

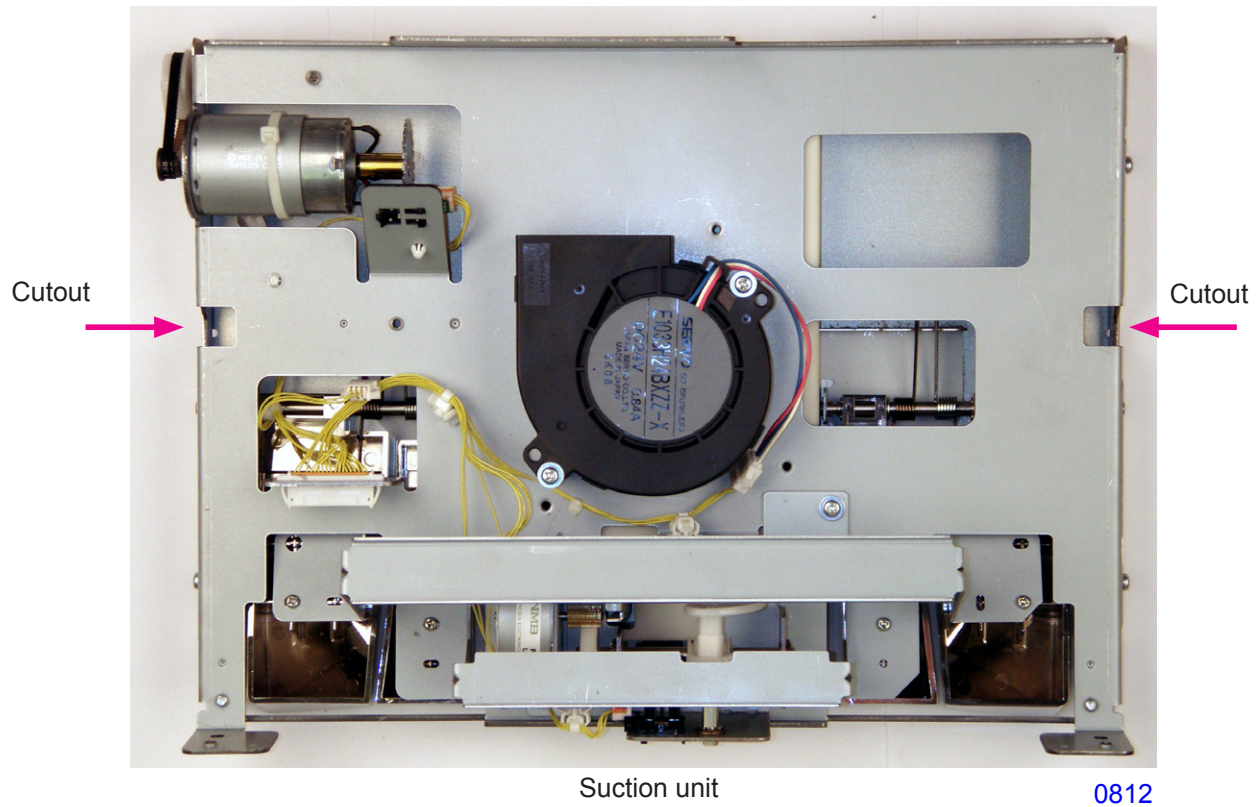
- (1) Pull out the Print drum from the machine.
- (2) Switch OFF the machine power and remove the Paper receiving tray.
- (3) Remove the Paper ejection cover by removing screws (M4 x 8 screw; 4 pcs).
- (4) Disconnect the connector, remove screws (M4 x 8 screw; 2 pcs) and pull out the Suction unit while lifting it up.

<Precaution in assembly continues on next page.>

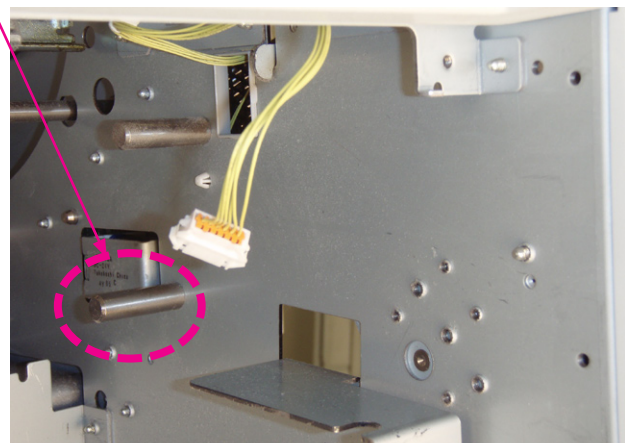
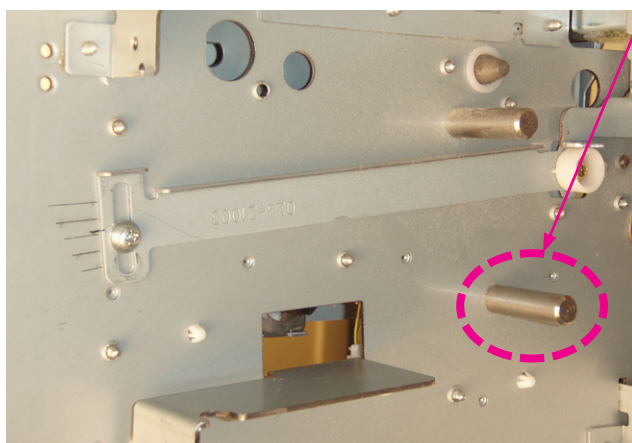


< Precaution in reassembly >

To mount the Suction unit back on the machine, insert the cutouts of on the Suction unit (Right and Left) into the shafts on the front side and left side of the Machine frame.



Machine frame shaft



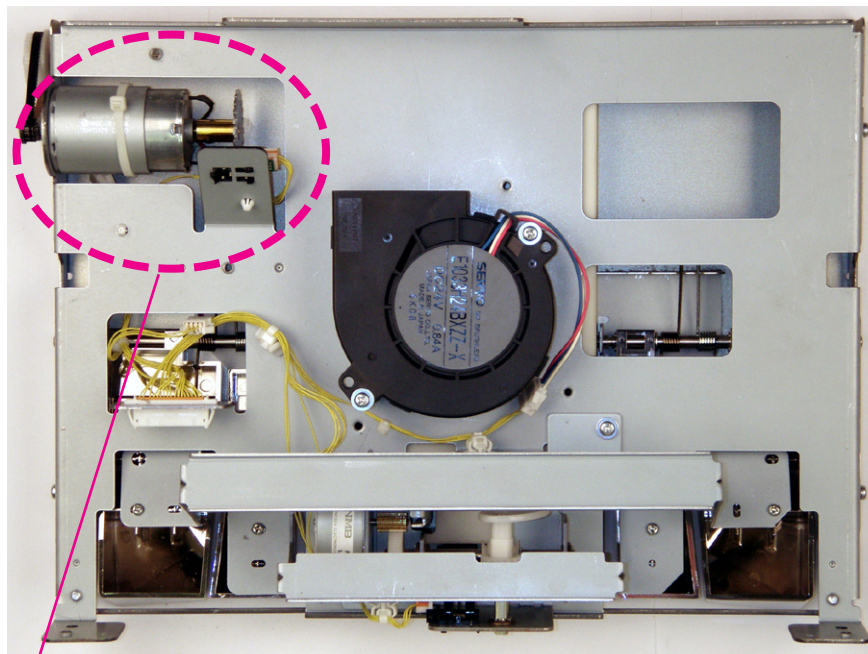
3. Removing the Paper Ejection Motor and Paper Ejection Motor FG Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch off the machine power and remove following components .
 - Paper receiving tray
 - Paper ejection cover
 - Suction unit
- (2) Remove the Timing belt.
- (3) Remove screws (M4 x 5 screw; 2pcs), disconnect the connector and remove the Paper ejection motor.
- (4) Disconnect the connector and remove the Paper ejection motor FG sensor.

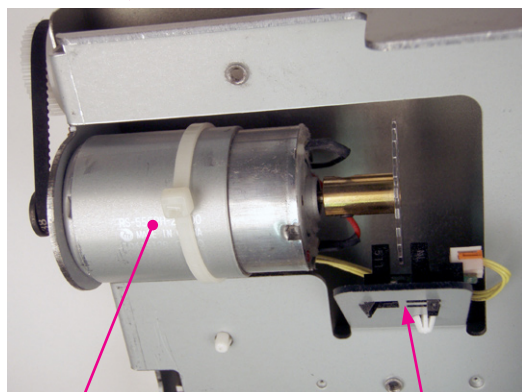
< Precaution in reassembly >

To attach the Paper ejection motor, make tension adjustment of the Timing belt.



<Rear view of the Suction Unit>

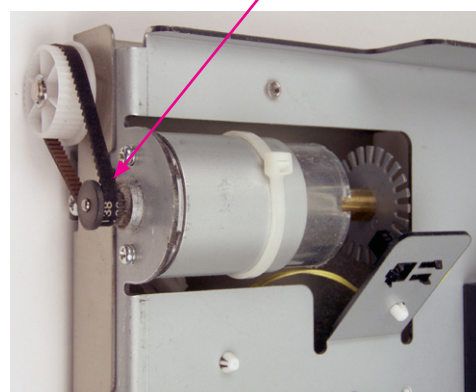
0812



Paper ejection motor

Paper ejection motor FG sensor

0815



Timing belt

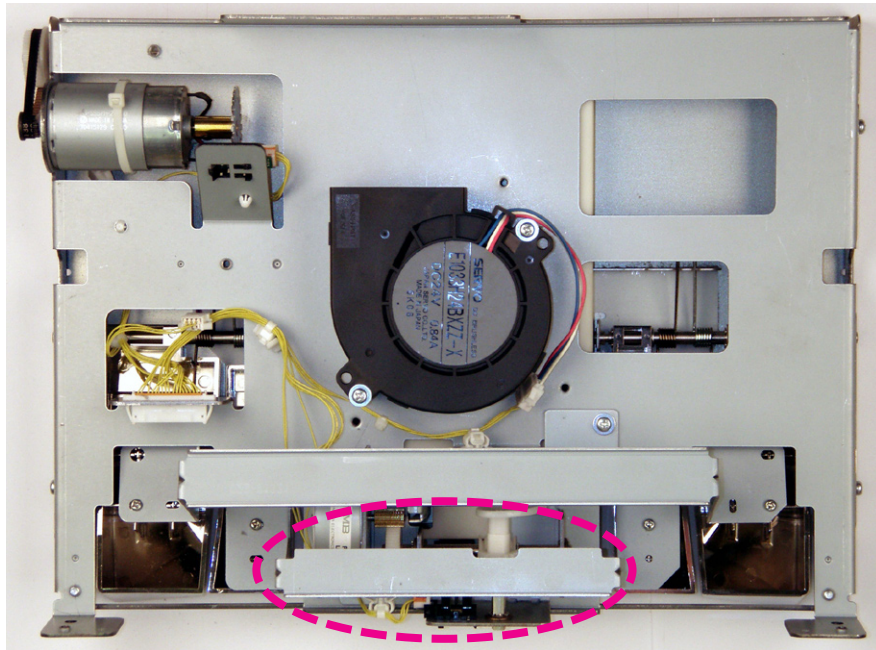
0816

4. Removing the Paper Ejection Wing HP Sensor

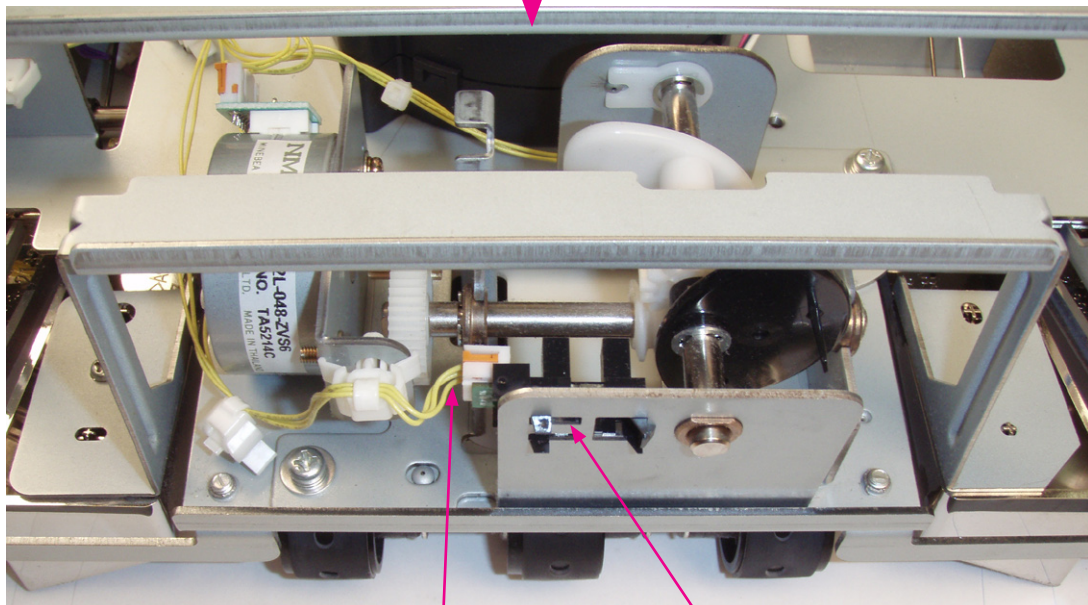
EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	O

Manual wing movement on EZ3 & EV3.
Fixed position wings on EZ2 & EV2.

- (1) Switch OFF the machine power and remove following components .
 - Paper receiving tray
 - Paper ejection cover
 - Suction unit
- (2) Disconnect the connector, and remove the Paper ejection wing HP sensor.



0812



Connector of the Paper ejection
wing HP sensor

Paper ejection wing HP sensor

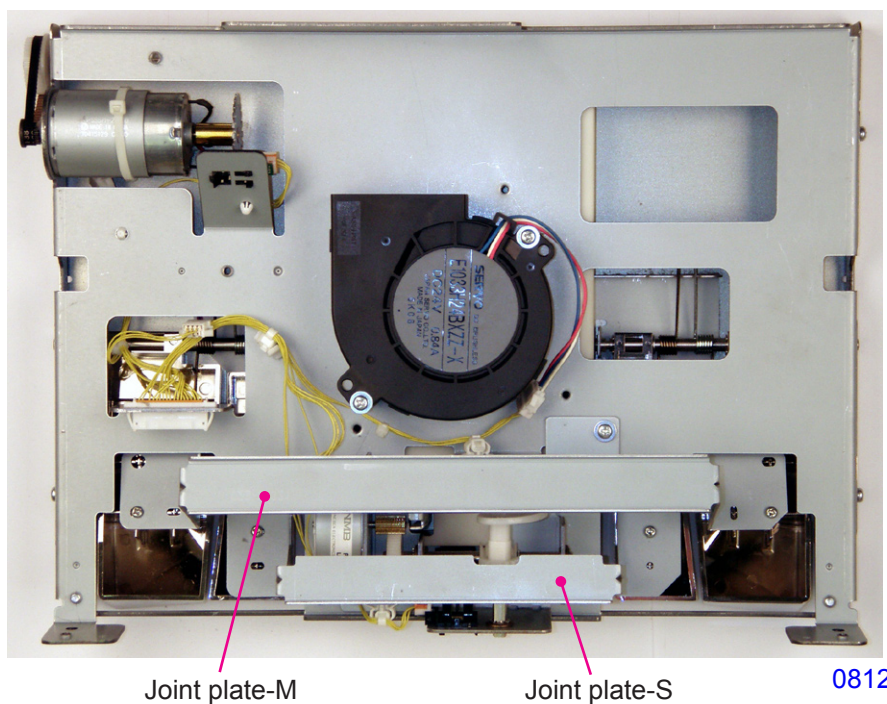
0817

5. Removing the Paper Ejection Wing Pulse Motor

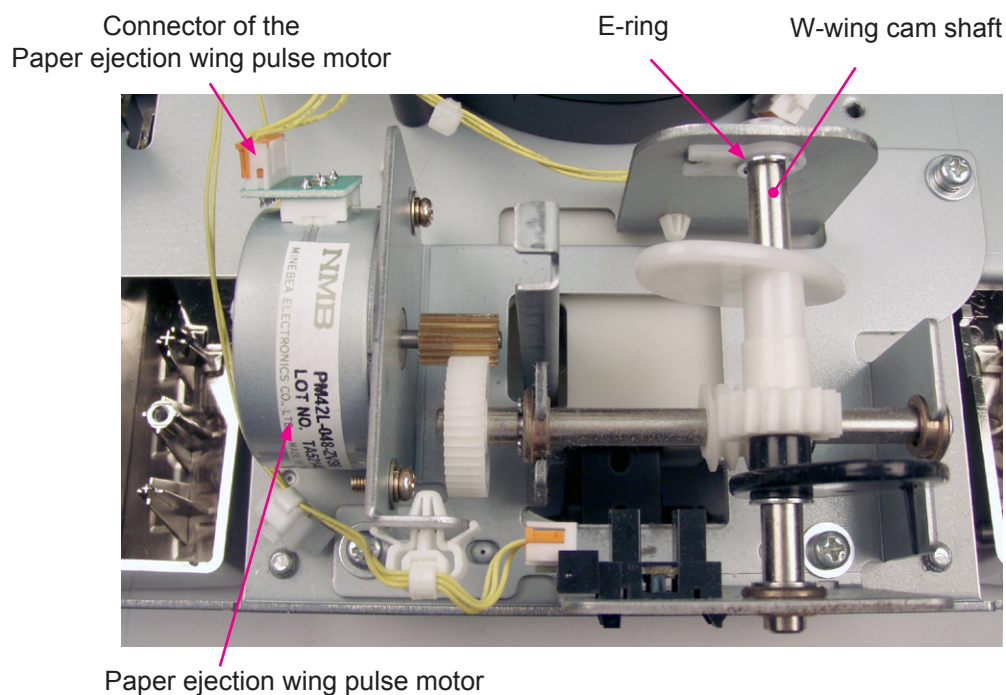
EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	O

Manual wing movement on EZ3 & EV3.
Fixed position wings on EZ2 & EV2.

- (1) Switch OFF the machine power and remove following components .
 - Paper receiving tray
 - Paper ejection cover
 - Suction unit
- (2) Remove both the Joint plate-M and Joint plate-S by removing screws (M3 x 8 screws; 2 pcs each).



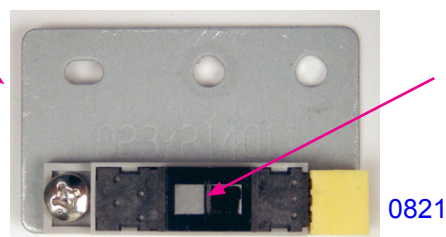
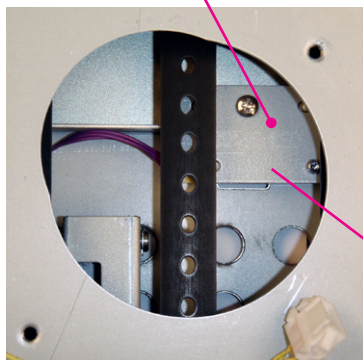
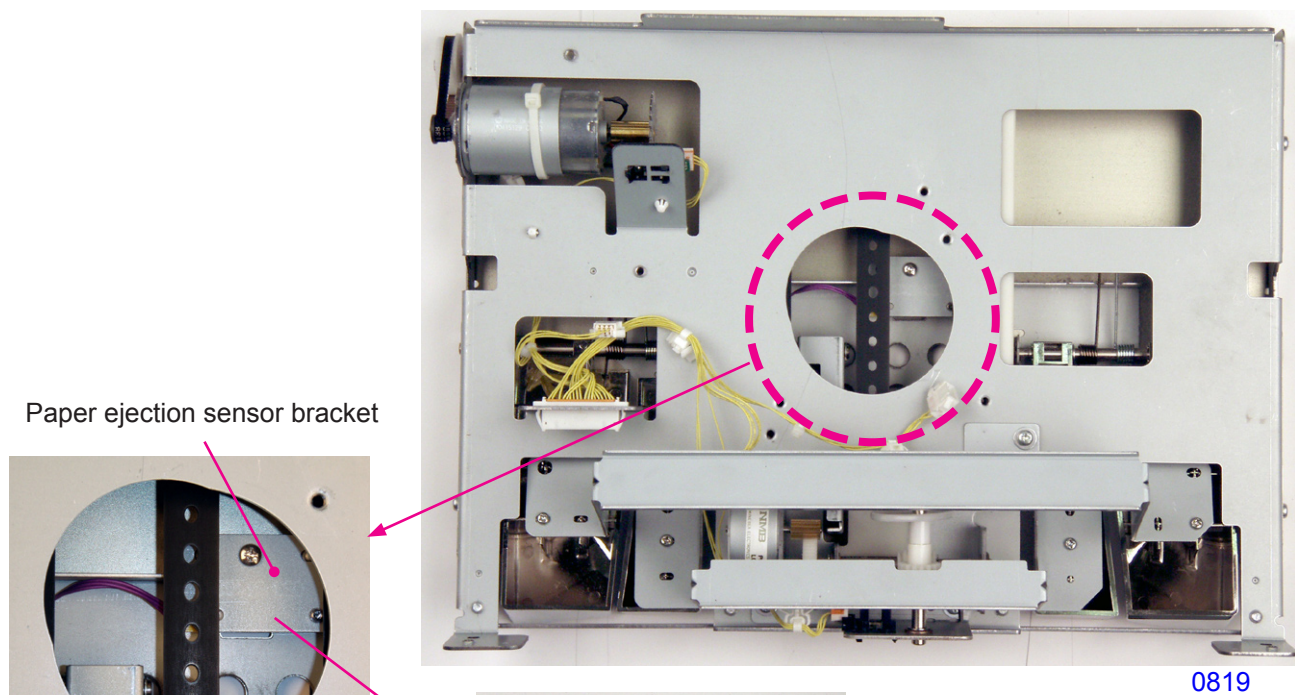
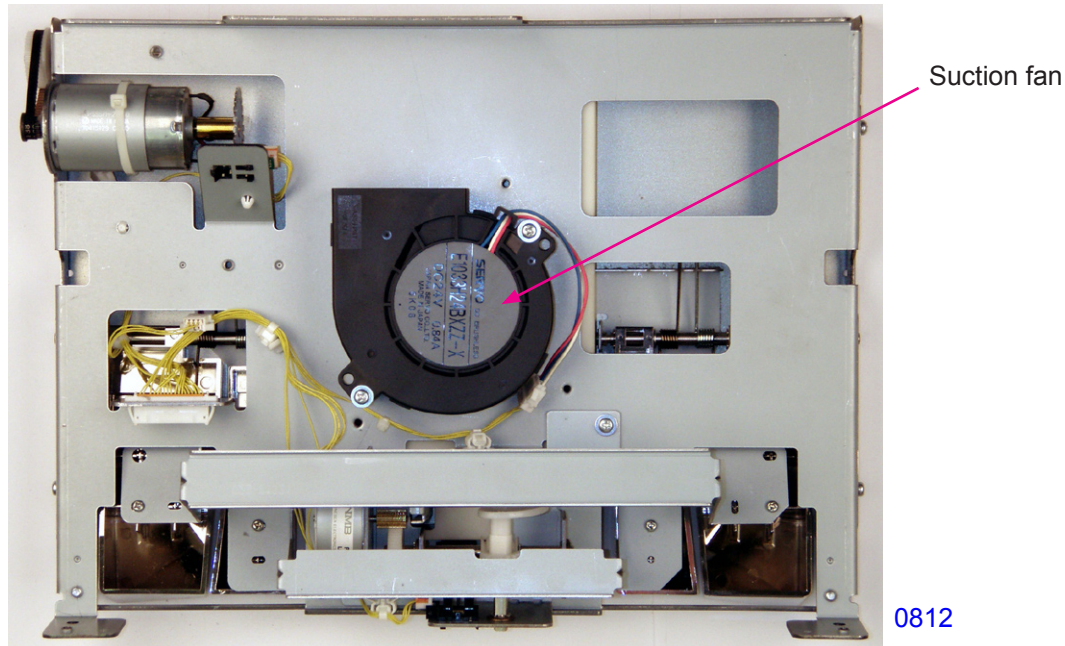
- (3) Remove E-ring and remove the W-wing cam shaft.
- (4) Disconnect the connector, and remove the Paper ejection wing pulse motor by removing screws (M3 x 8 screw; 2 pcs).



6. Removing the Paper Ejection Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the following components.
 - Paper receiving tray
 - Paper ejection cover
 - Suction unit
- (2) Remove the Suction fan by removing screws (M4 x 40 screw; 3 pcs).
- (3) Remove a screw (M3 x 6 screw; 1pc), disconnect the connector, and remove the Paper ejection sensor together with the sensor bracket.



Paper ejection sensor

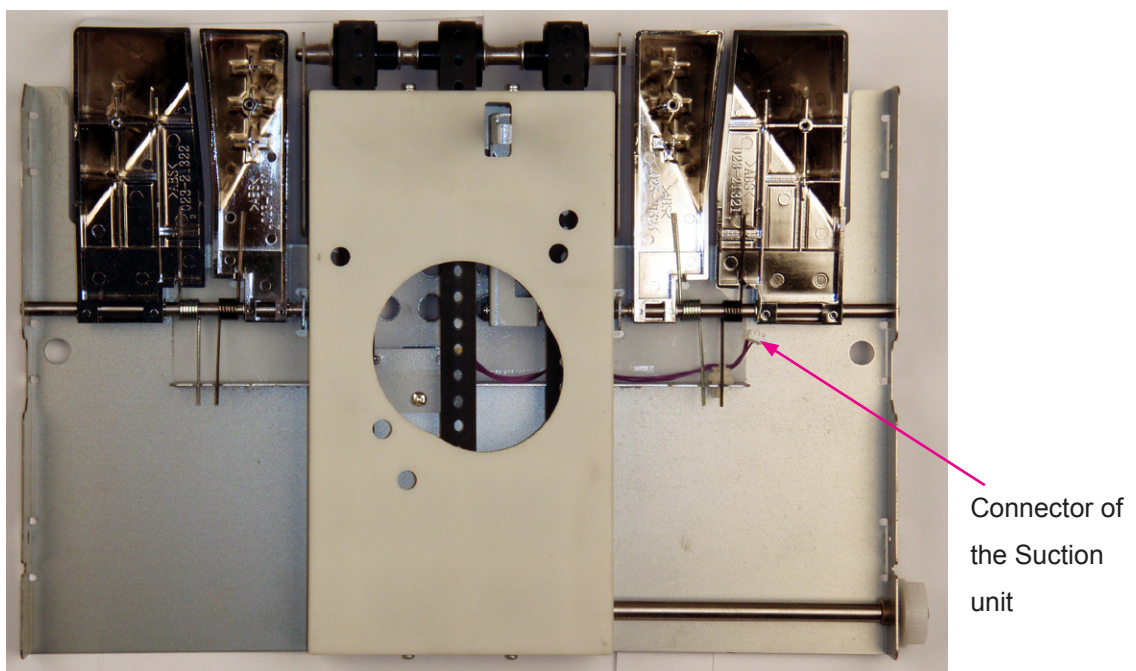
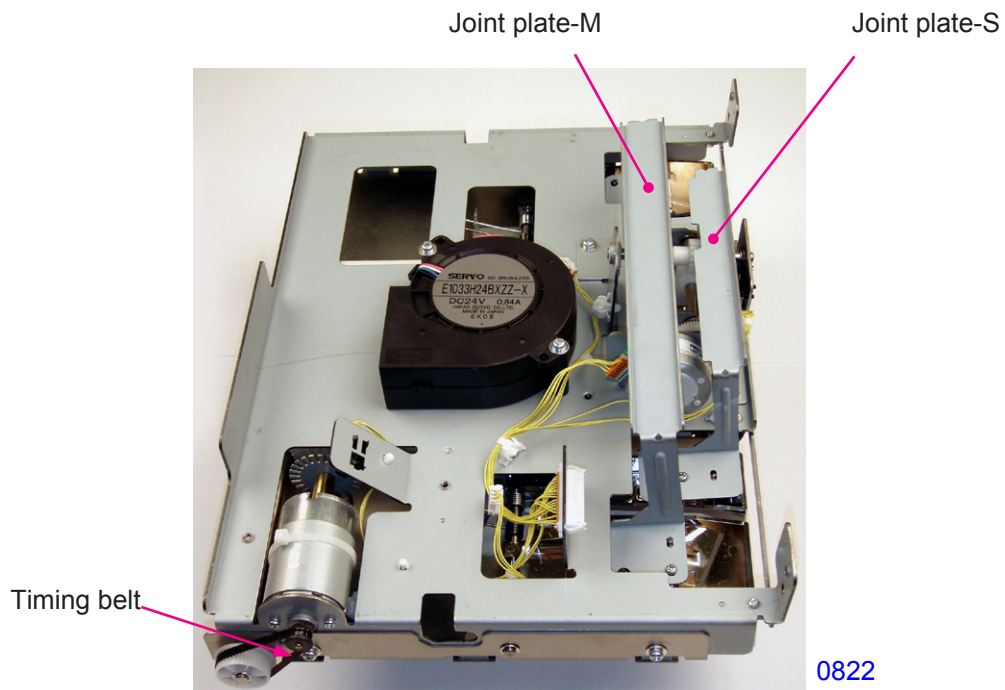
7. Removing the Suction Belts

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	O	O

Joint plate M & S not used on EZ2 & EV2.

- (1) Switch off the machine power and remove the following components.
 - Paper receiving tray
 - Paper ejection cover
 - Suction unit
- (2) Remove the Timing belt.
- (3) Remove both the Joint plate-M and Joint plate-S by removing screws (M3 x 8 screw; 2 pcs each).
- (4) Remove screws (M4 x 8 screw; 4 pcs), disconnect the connector and remove the Suction upper assembly.

- continues to next page -

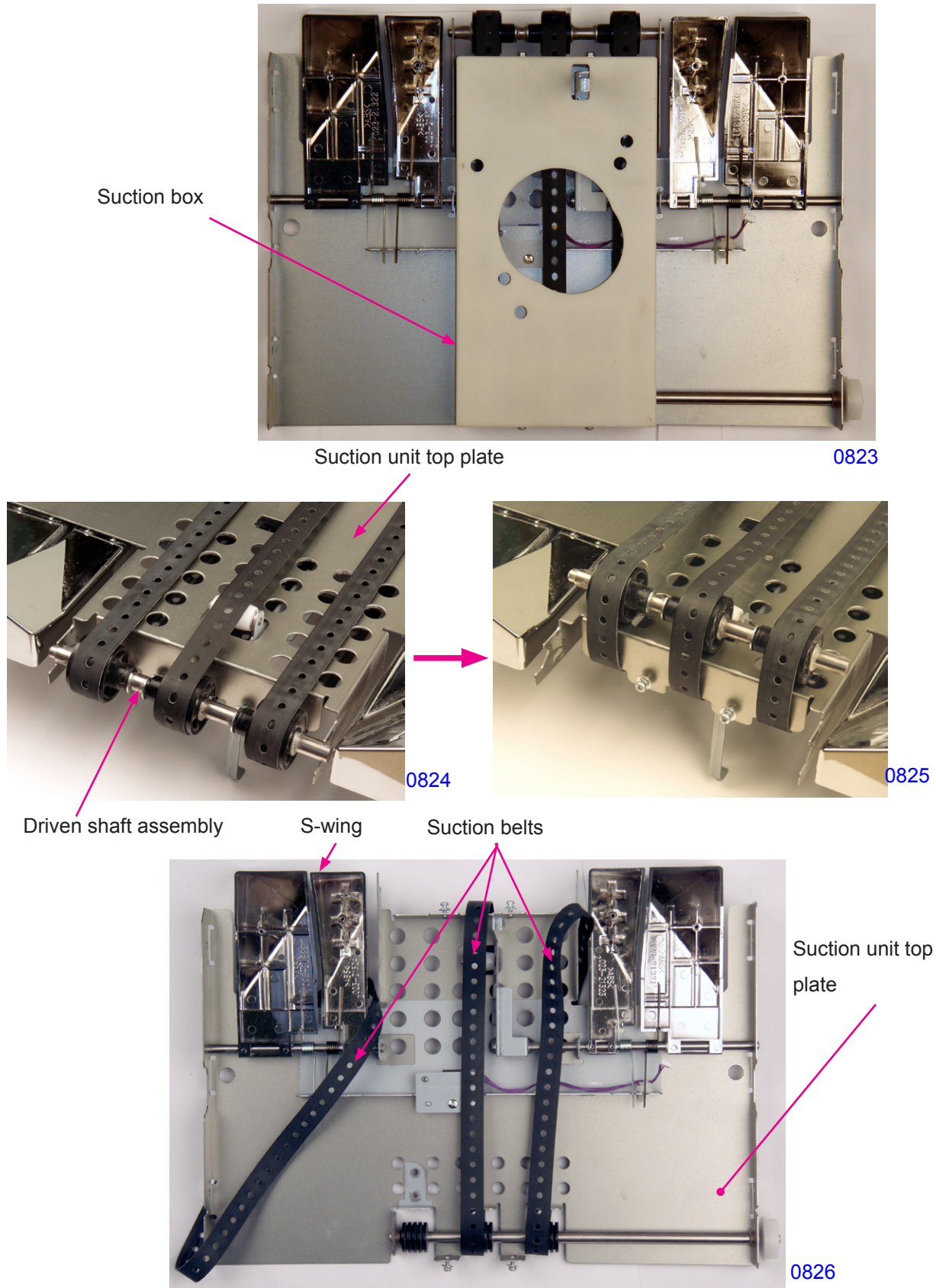


< Suction upper assembly >

0823

- (5) Remove the Suction box by removing screws (M3 x 8 screw; 4 pcs).
- (6) Lift the Driven shaft assembly with a finger, unhook it from the Suction upper assembly and remove the Driven shaft assembly.
- (7) Remove the Suction belts by first dropping them in the gap between the S-wing and transfer base to ease the tension of the belts.

Caution: In attaching the Suction belts, the shiny side of the belt should face outside.



8. Removing the Separation Fan Unit

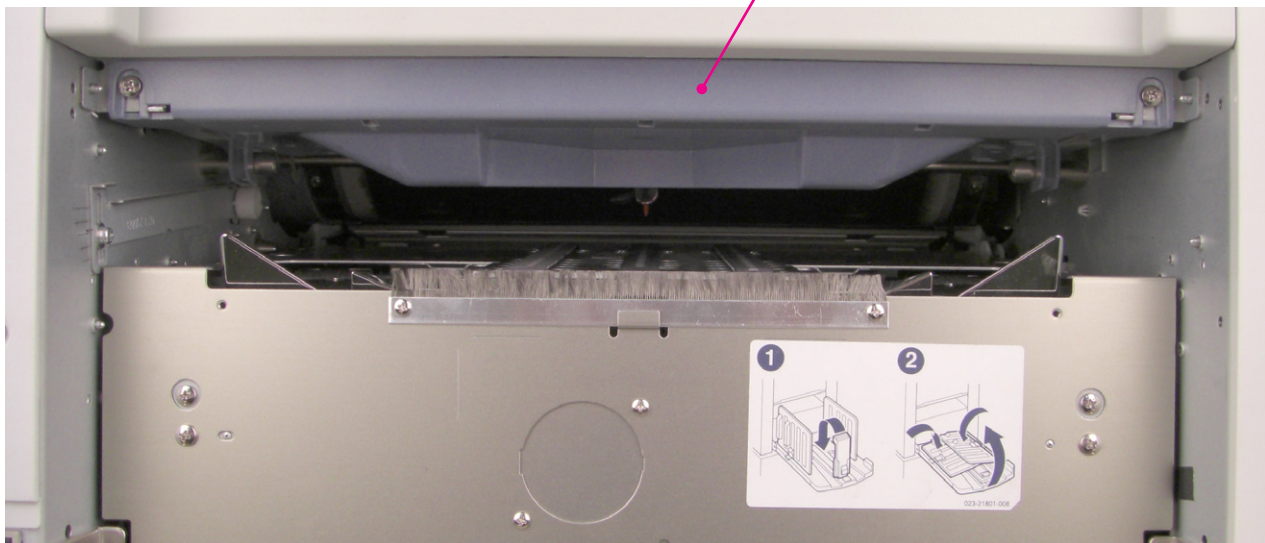
EZ2	EZ3	EZ5	EV2	EV3	EV5
#	O	O	#	O	O

Only one Separation fan used on EZ2 & EV2

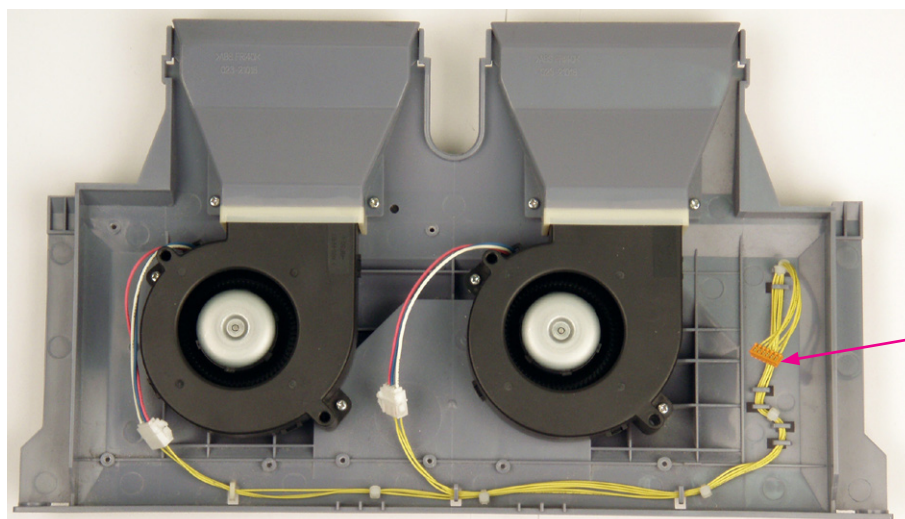
- (1) Switch OFF the machine power and remove the Paper receiving tray.
- (2) Remove screws (M4 x 8 screw; 2 pcs), unplug the connector, and remove the Separation fan.

<Precaution in assembly continues on next page.>

Separation fan unit



0827



Connector of the Separation fan unit

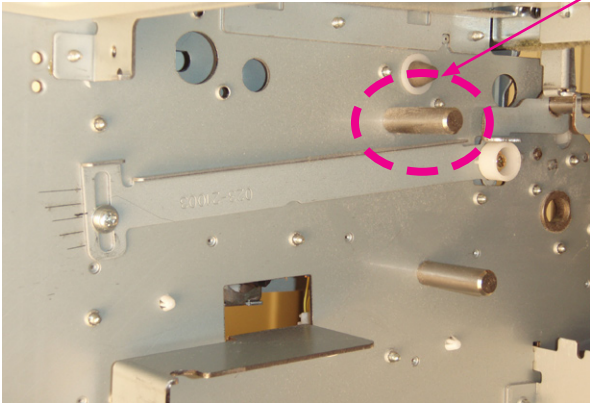
<Separation fan unit>

0828

< Precautions in Reassembly >

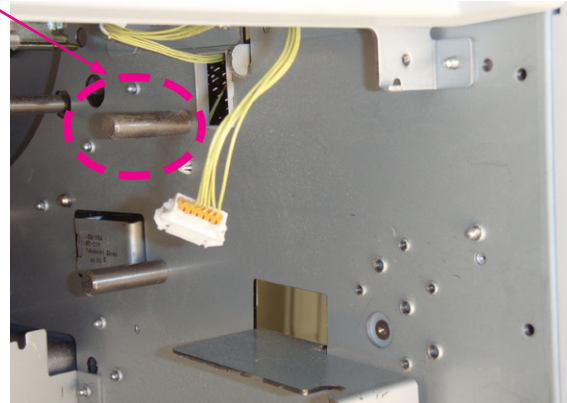
- (1) Insert the cutouts on the Separation fan unit into the shafts on the front side and left side of the Machine frame.
- (2) Fit the flat pins on the Machine frame into the small rectangular holes on the far right and far left of the Separation fan unit to mount the Separation fan unit on the machine.

Machine frame shaft



Machine frame;Front

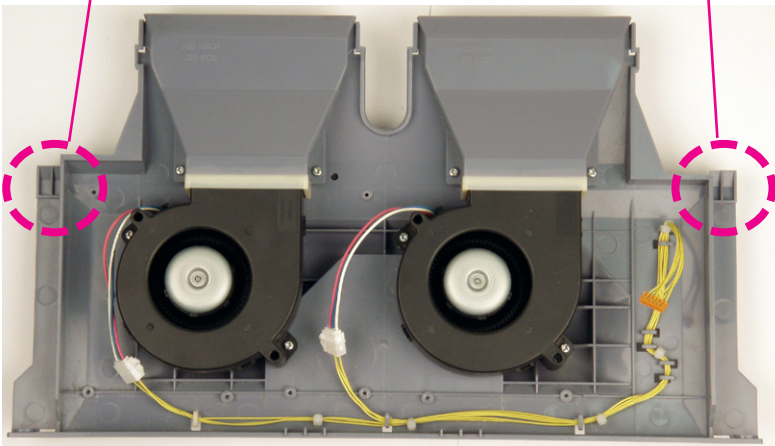
0813



Machine frame;Rear

0814

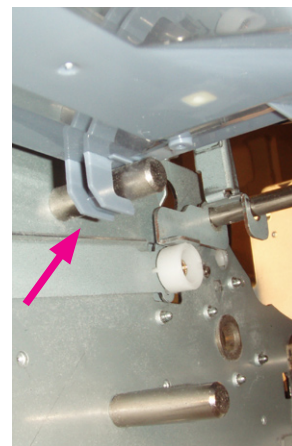
Cutout



<Separation fan unit>

0828

Cutout



<Cutout; detail view>

0829

Flat pins on the machine frame inserted through the rectangular holes on the separation fan unit.



0827

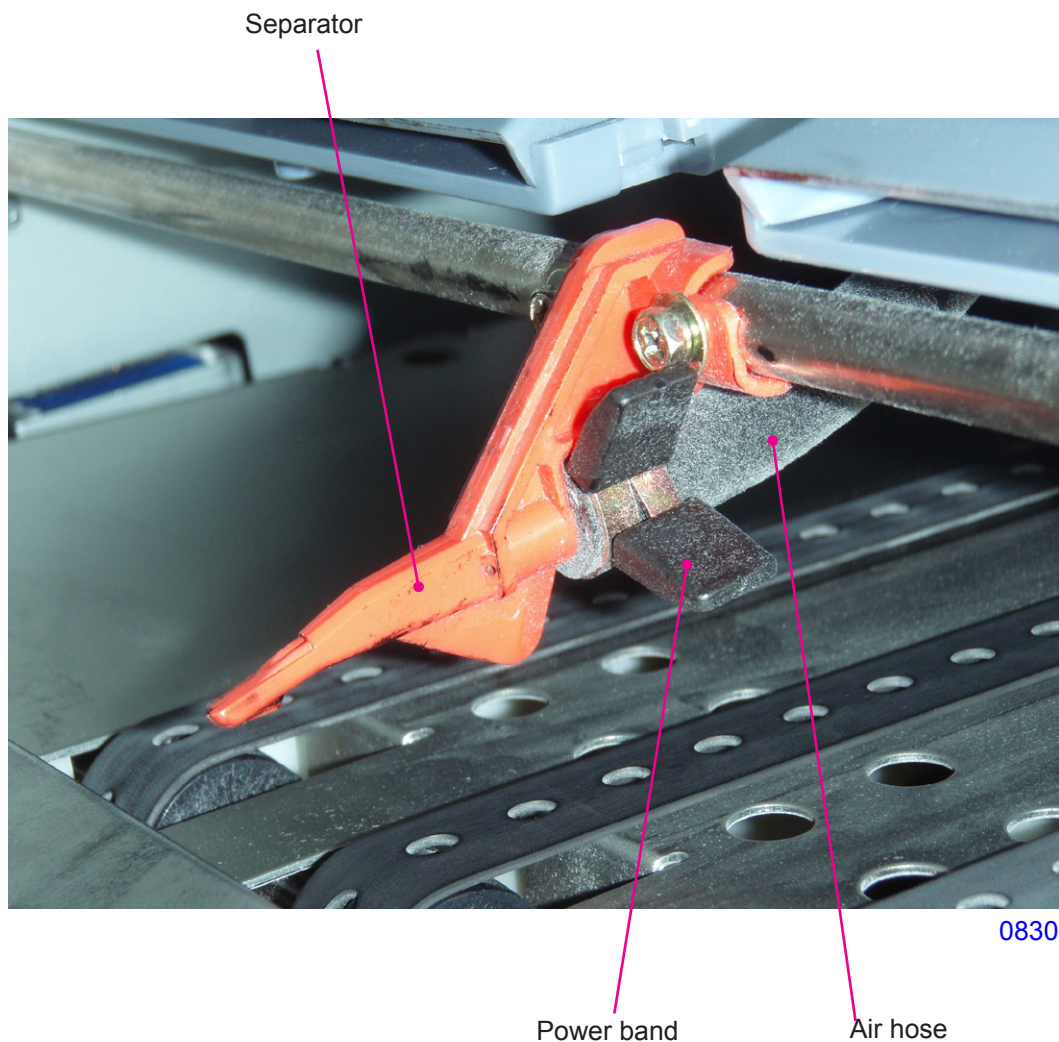
9. Removing the Separator

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the following components.
 - Paper receiving tray
 - Separation fan unit
- (2) Pinch the Power-band, slide it away from the Separator, and pull the Air hose off the Separator.
- (3) Remove the Cap screws (M3 x 8 cap screw; 2 pcs) and remove the Separator from the shaft.

< Precautions in Reassembly >

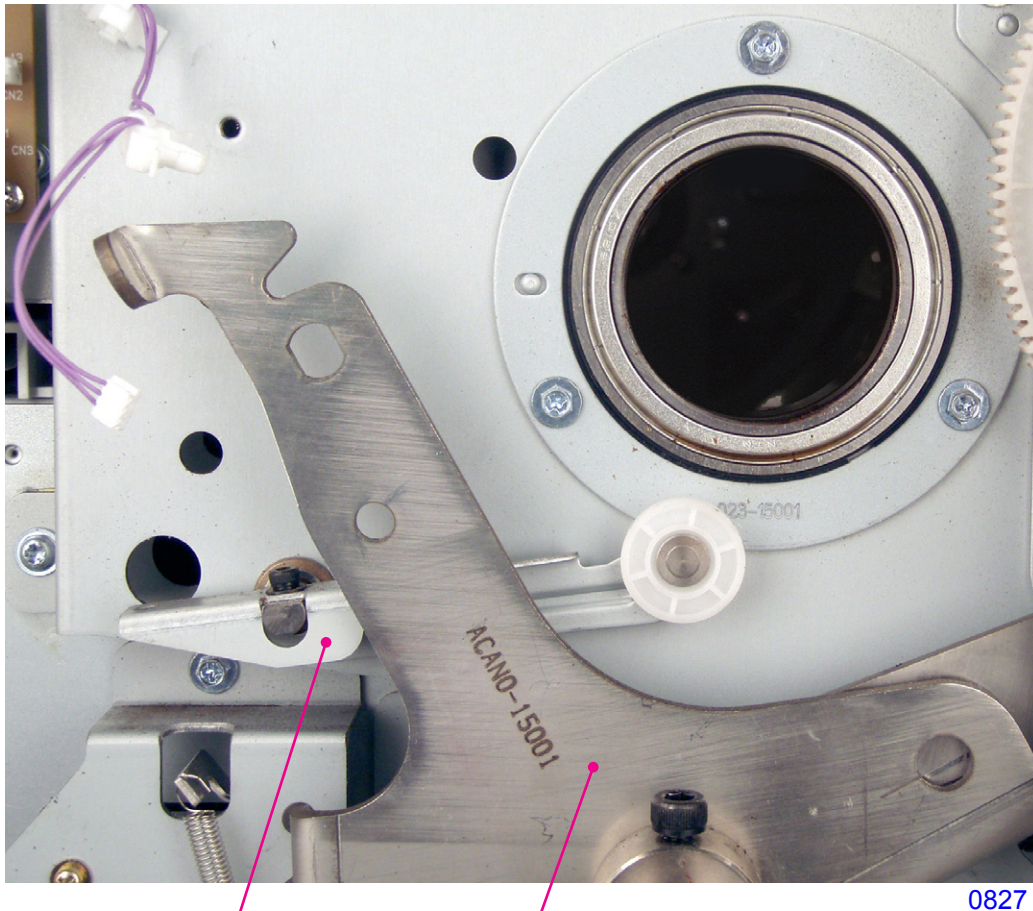
The pinch knobs on the Power band should face towards you, as shown on the photograph when mounting it on the Air hose.



10. Removing the Separation Lever

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Remove the Main shaft assembly. (Refer to chapter 3)
- (2) Remove the Cap screw (M3 x 10 cap screw; 1 pc) and remove the Separator lever assembly.



0827

Separator lever

Pressure lever;spring

Adjustment

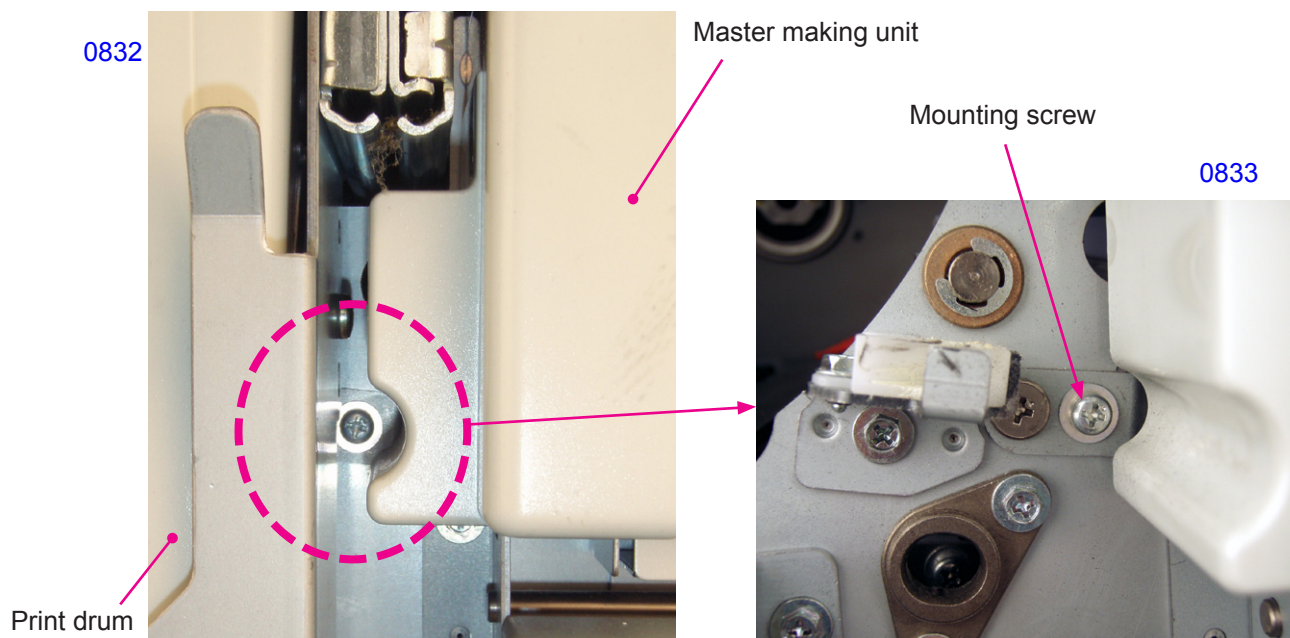
1. Separator Mounting Position

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

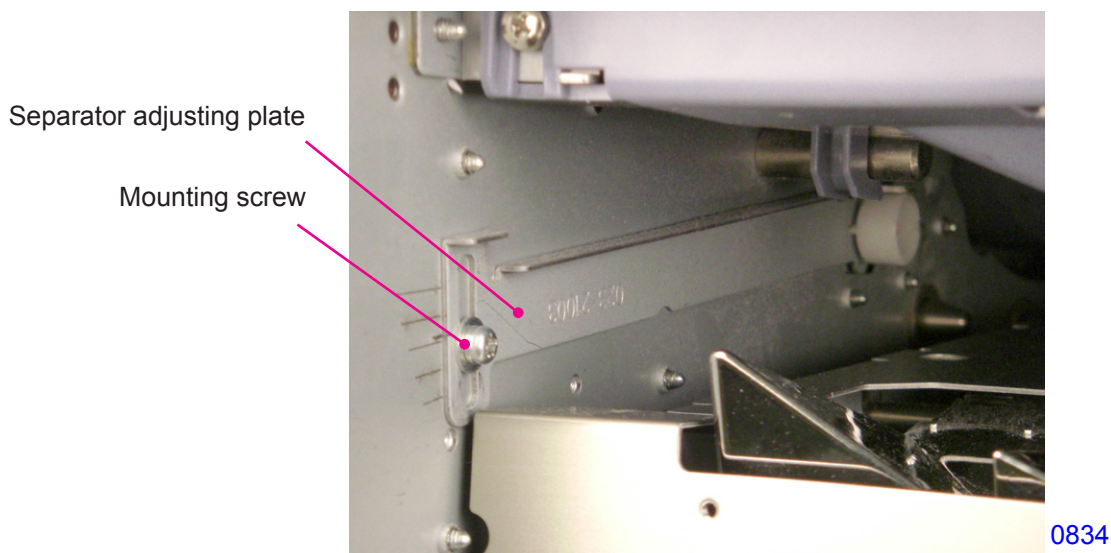
Checks and adjustment

- (1) Using Test Chart No.15, create a master and make prints. Confirm that neither paper jamming on the drum nor black thin line appears on the prints (5mm white margin is given on top of the prints to check the paper jamming on the drum).
- (2) If paper jams on the Drum or a thin black line appears on the prints, remove the Print drum from the machine and remove the Print drum front cover. Return the Print drum back in the machine and switch OFF the machine power.
- (3) Loosen the two mounting screws on the Separator adjusting plate (one located at the right of the Print drum and the other on the Machine frame inside the machine on the paper receiving side).

- continues on next page -



<View of the front of the machine in between the Print drum and Master making unit.>

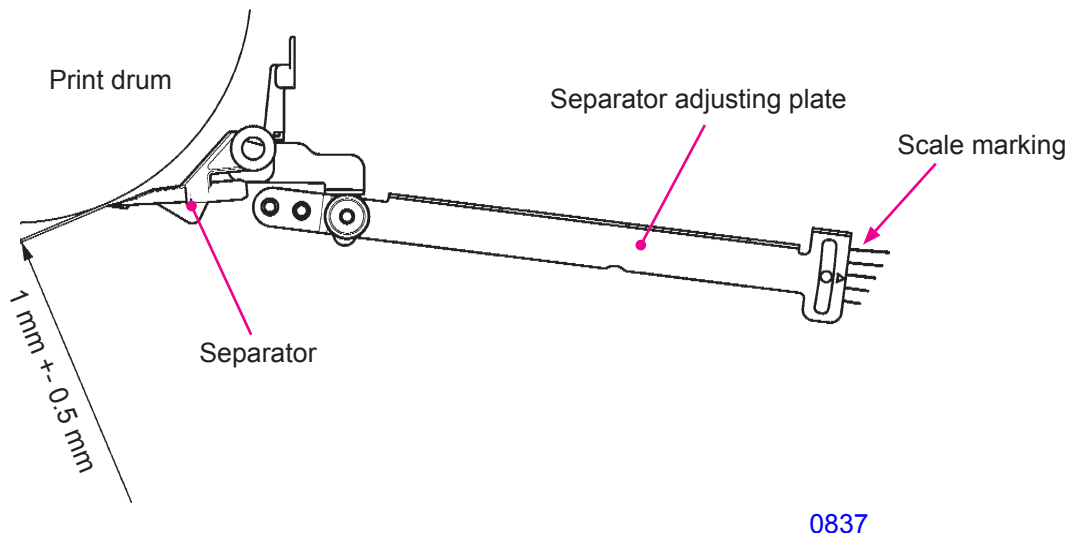
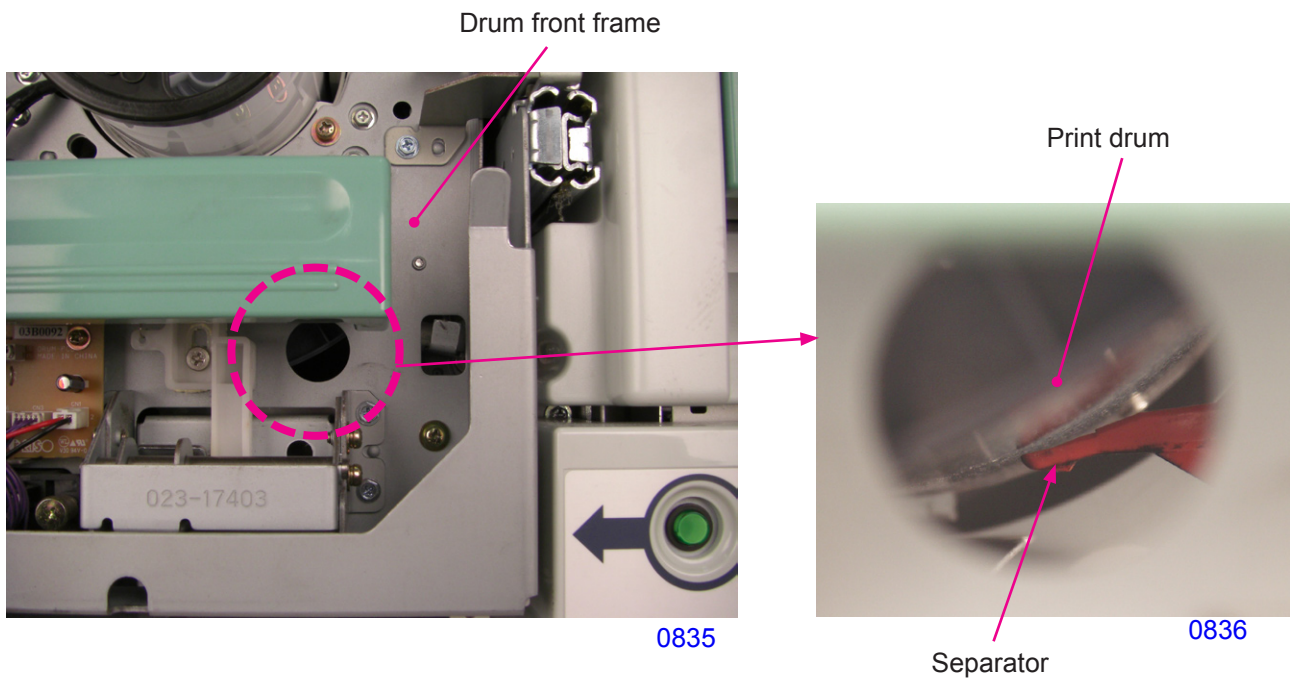


<View from the paper receiving area>

- (4) Move the Separator adjusting plate up or down to adjust the position of the Separator against the Print drum, looking at the gap between the Print drum and the tip of the Separator through the hole on the Drum front frame of the Print drum. The gap between the Separator and Print drum should be adjusted to within 0.5 mm to 1.5 mm. Tighten two mounting screws after the adjustment.

NOTE:

1. Make the adjustment with the Print drum at Position-B.
2. One scale marking on the Separator adjusting plate changes the Separator position by 1 mm.



Symptoms

- (1) If the tip of the Separator touches the Print drum surface, the surface of the master is scratched, causing a black line in the center of the prints.
- (2) If the gap is too wide, the Separator does not lift the paper off the Print drum and causes paper jam on the Print drum.

MEMO

CHAPTER 9: PRINT DRUM SECTION

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Mechanism

1. Master on the Drum Check Mechanism (Before Printing)

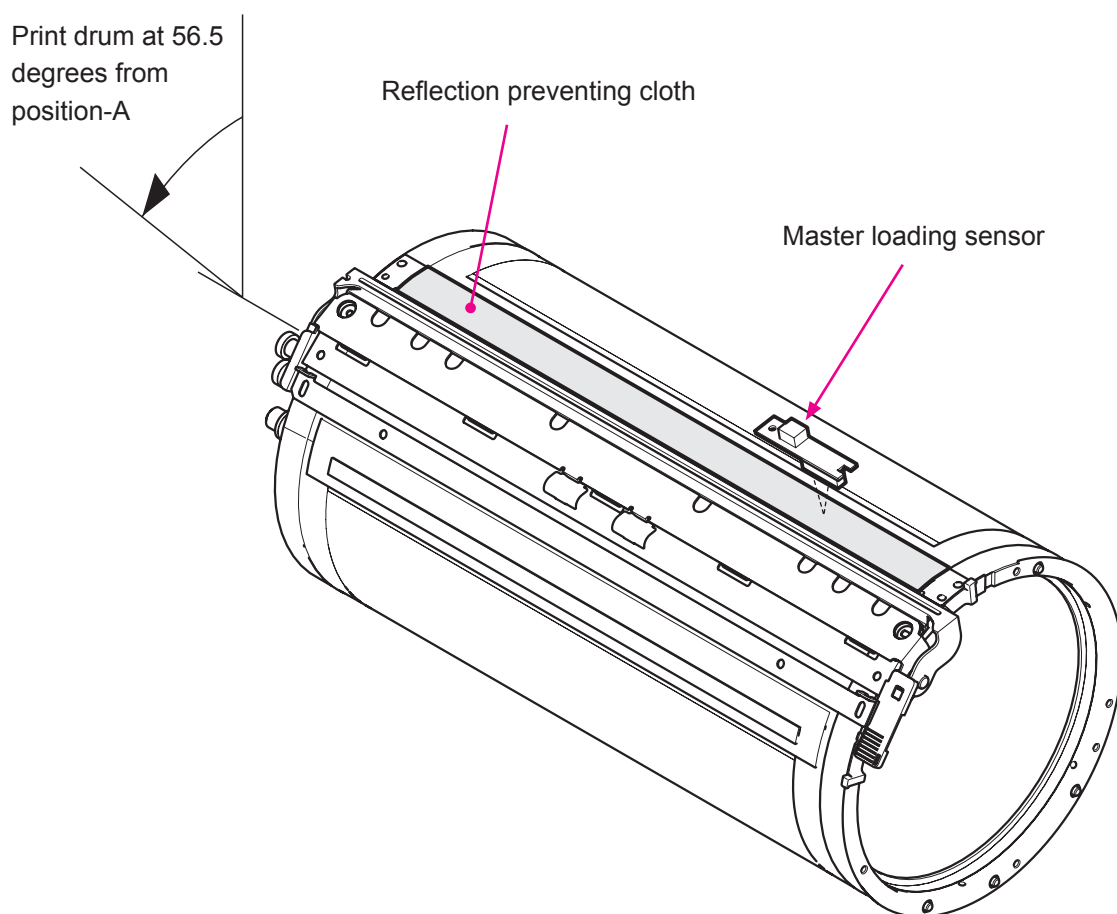
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

The machine checks for the presence of the master on the Print drum at the start of a print job. With a push of the Start key to begin the printing operation, the Print drum starts to rotate and at drum angle 56.5 degrees from the position-A, the Master loading sensor checks if a master is wrapped on the Print drum or not.

Once the master is detected on the Print drum, the information is memorized on the machine and Master loading sensor no longer checks for the master on the Print drum from the next printing job until the Print drum is pulled out of the machine, or the power to the machine is turned OFF.

If the machine already knows that there is master on the Print drum, the machine goes immediately to printing without looking for the master on the Print drum.

If the Master loading sensor does not detect master on the Print drum at drum angle 56.5 degrees, the printing job does not start.

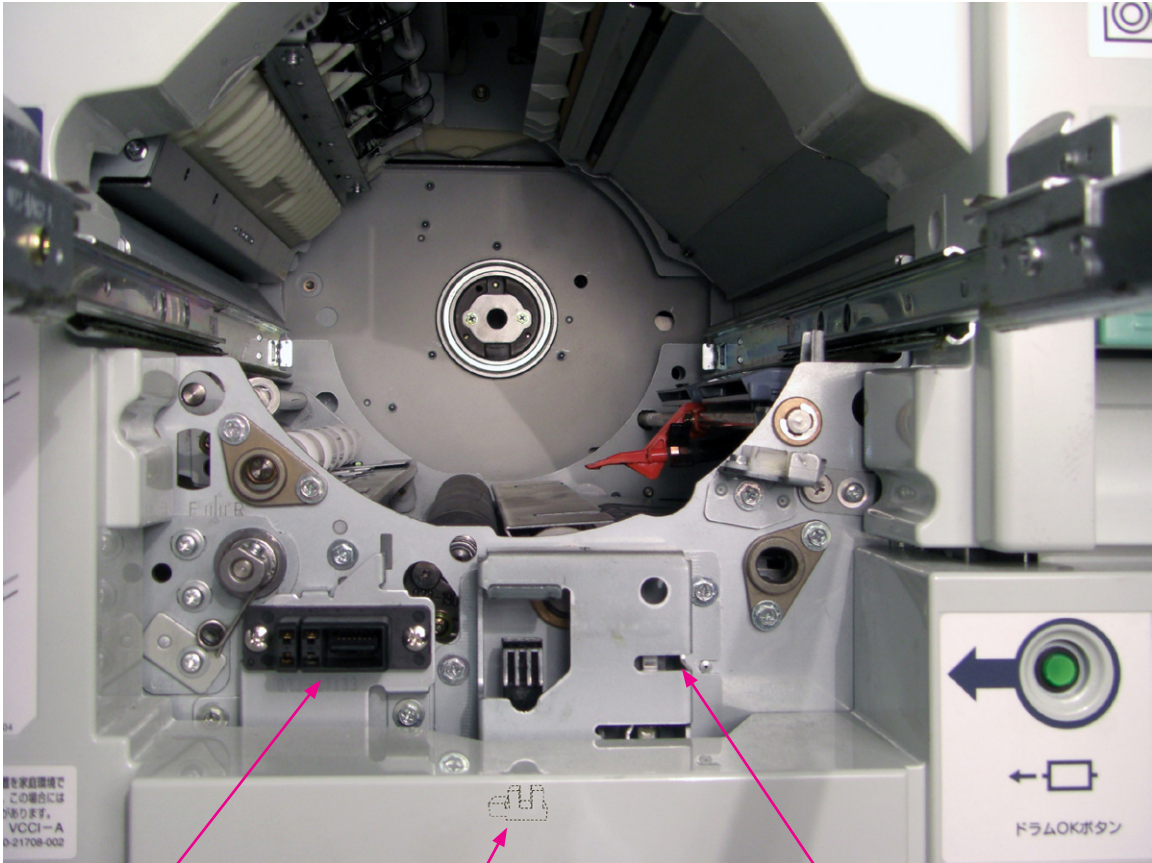


0901

2. Print Drum Set Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

The removal and insertion of the Print drum is done at Position-B.
Whether the Print drum is set in the machine or not is checked by the Drawer connector of the Print drum, Drum safety switch and Print drum lock sensor.
When the Drum safety switch is OFF, the Main motor, Clamp motor, Master removal motor, Master compression motor and Separation fan motor will not go ON.



0902

Drawer connector

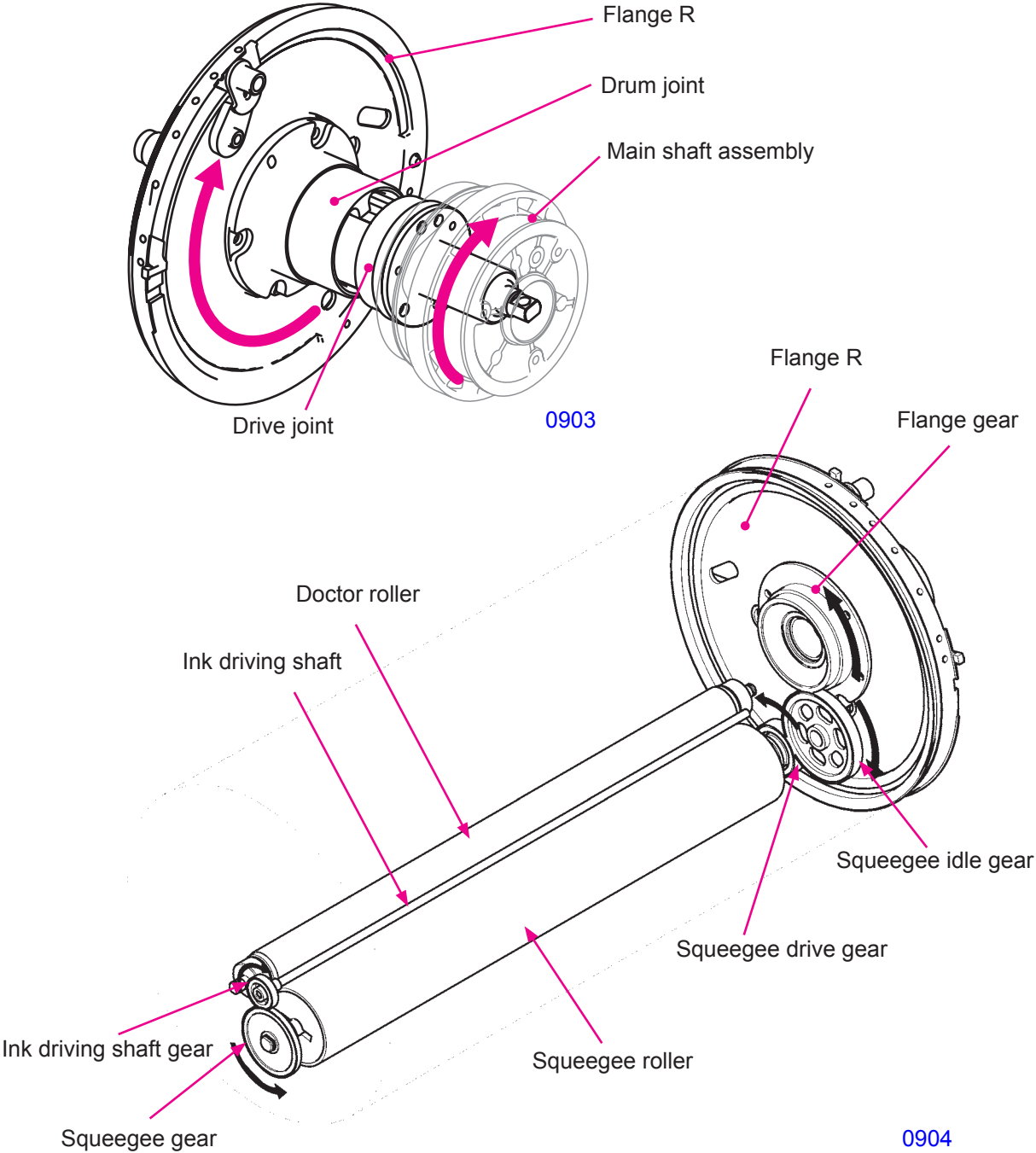
Print drum lock sensor

Drum safety switch

3. Print Drum Rotation Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

When the Main motor rotates, the drive is transferred in following sequence.
The Main motor drive is transferred to the Main shaft assembly via main belt, and via the Drive joint the Drum joint receives the drive and rotates the Flange R of the Print drum.
The Flange gear on the Flange R drives the Squeegee idle gear and the drive is transferred to the Squeegee drive gear to rotate the Squeegee roller.
As the Squeegee roller rotates, the Squeegee gear attached on the Squeegee roller shaft rotates and transfers the drive to the Ink driving shaft gear and rotates the Ink driving shaft.
The Squeegee drive gear contains a one-way clutch to prevent the Squeegee roller from rotating in the reverse direction if by accidentally the Print drum is rotated in the opposite direction by hand.



4. Inking Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

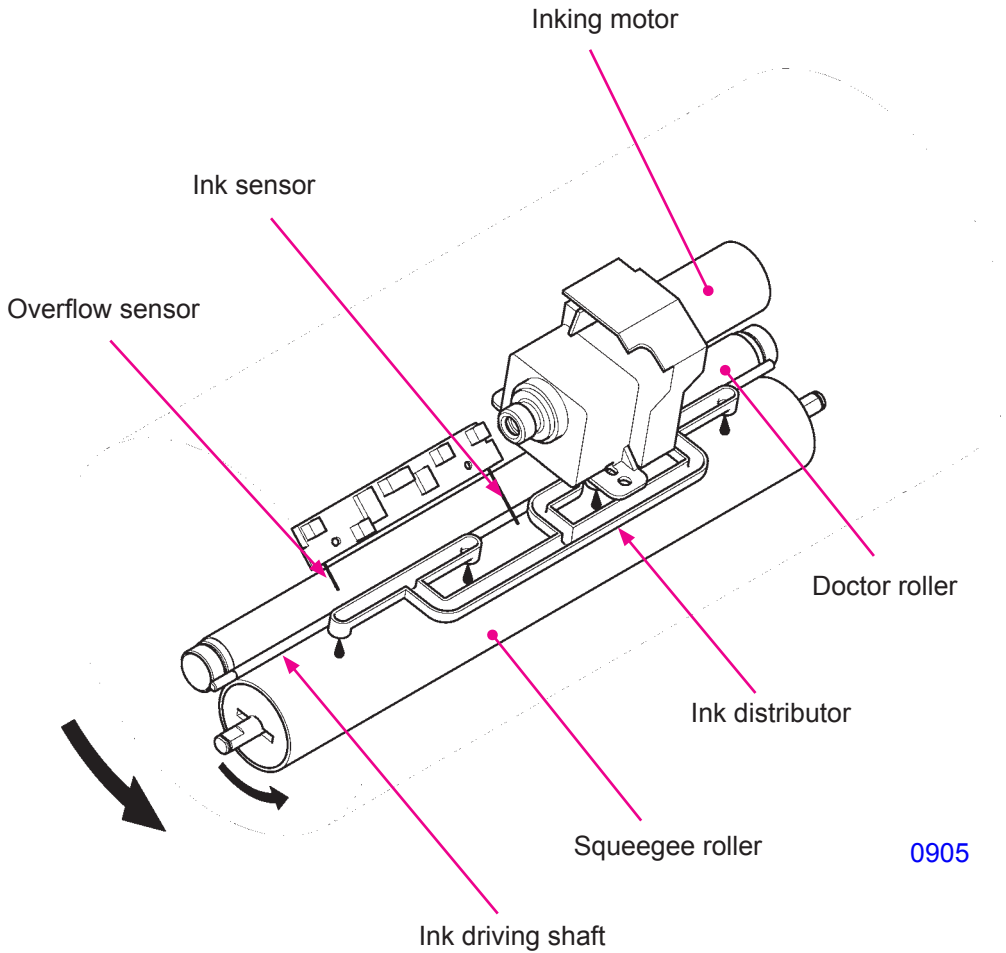
The ink is pumped into the Print drum from the Ink bottle when the Ink sensor in the Print drum no longer detects the ink in the drum while the Print drum is rotating with the Main motor ON.

The pumped ink is distributed on to the Squeegee roller from the holes on the Ink distributor.

The ink distributed on the Squeegee roller makes a long ink bead around the Ink driving shaft located between the Squeegee roller and Doctor roller. Once the bead of ink touches the Ink sensor the Inking motor deactivates to stop the inking action.

There is a small gap made between the Doctor roller and Squeegee roller. From this gap, the ink from the bead transfers onto the inner surface of the Print drum via the squeegee roller.

The Overflow sensor is located in the Print drum to stop the machine to prevent ink overflow in the case the bead of ink for some reasons becomes too large.

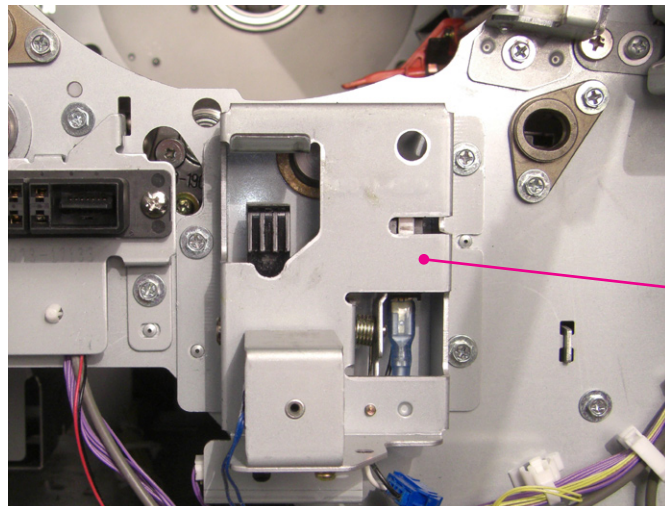


Disassembly

1. Removing the Print Drum Lock Sensor, Print Drum Lock Solenoid, Drum Safety Switch

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Remove the Print drum from the machine, switch OFF the machine power and remove the Front cover.
- (2) Remove screws (M4 x 8 screws; 3 pcs), unplug connectors (3 locations), and remove the Drum lock unit.

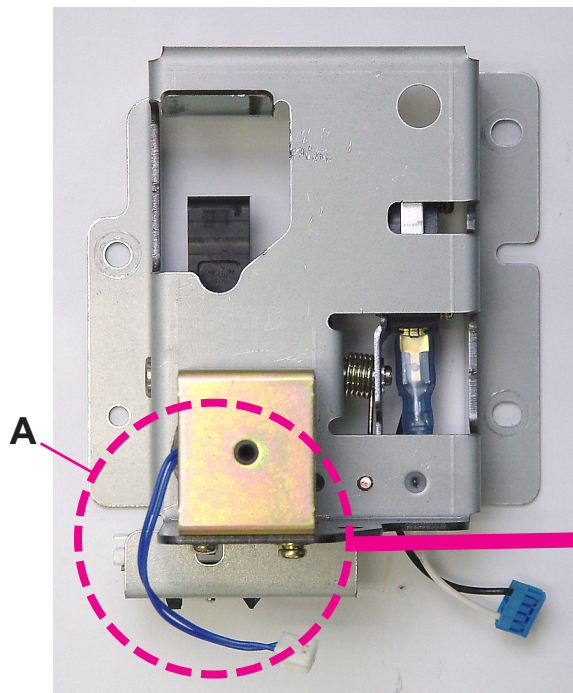


Drum lock unit

0906

Removing the Print drum lock sensor

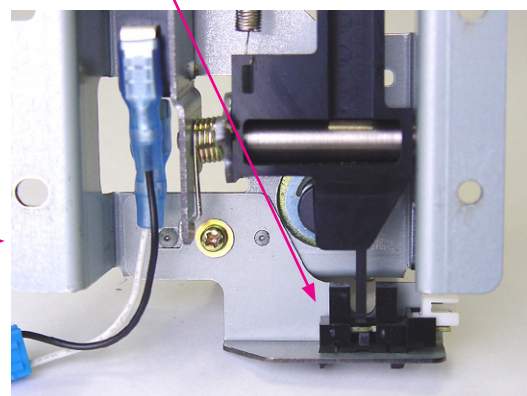
- (3) Remove a Screw (M3 x 6 screw; 1 pc) and remove the Print drum lock sensor from the Drum lock unit together with the sensor bracket.



< Drum lock unit >

0907

Print drum lock sensor



< Rear view of A >

0908

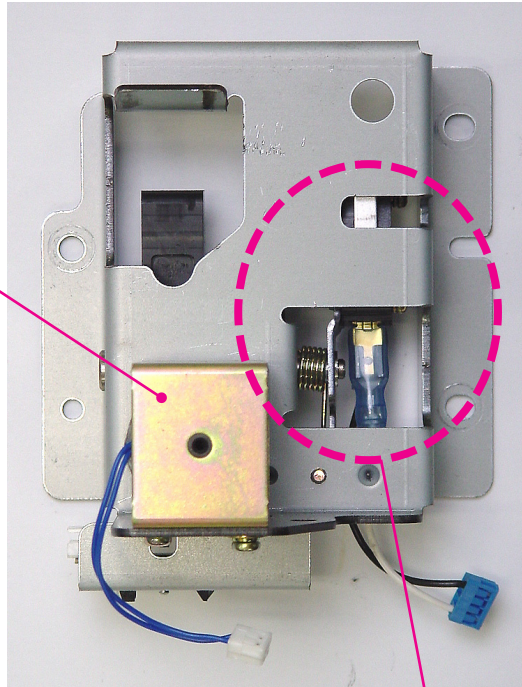
Removing the Print drum lock solenoid

- (3) Remove screws (M3 x 6 screws; 2 pcs) and remove the Print drum lock solenoid.

Removing the Drum safety switch

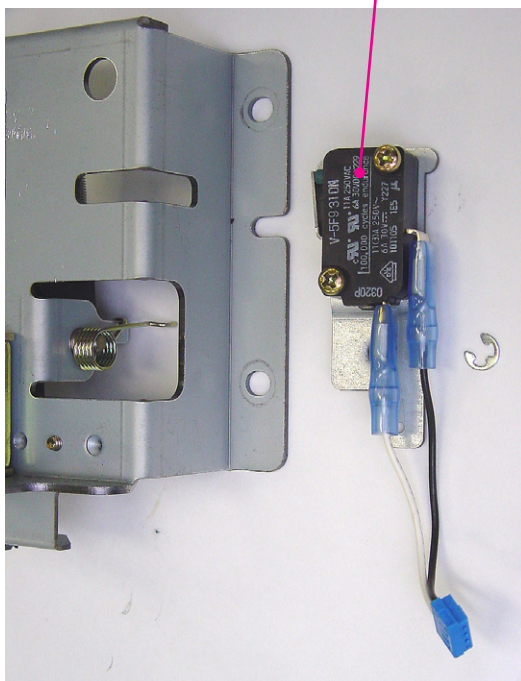
- (3) Unhook the Torsion spring, remove the E-ring, and remove the Drum safety switch together with the switch bracket.

Print drum lock solenoid

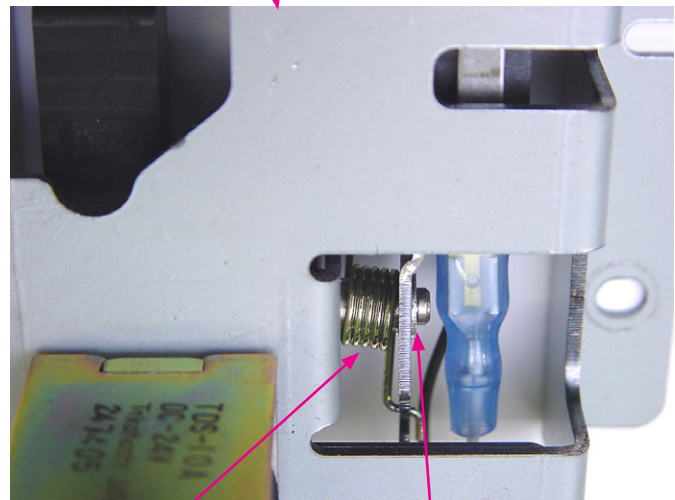


0907

Drum safety switch



0910



0909

Torsion spring

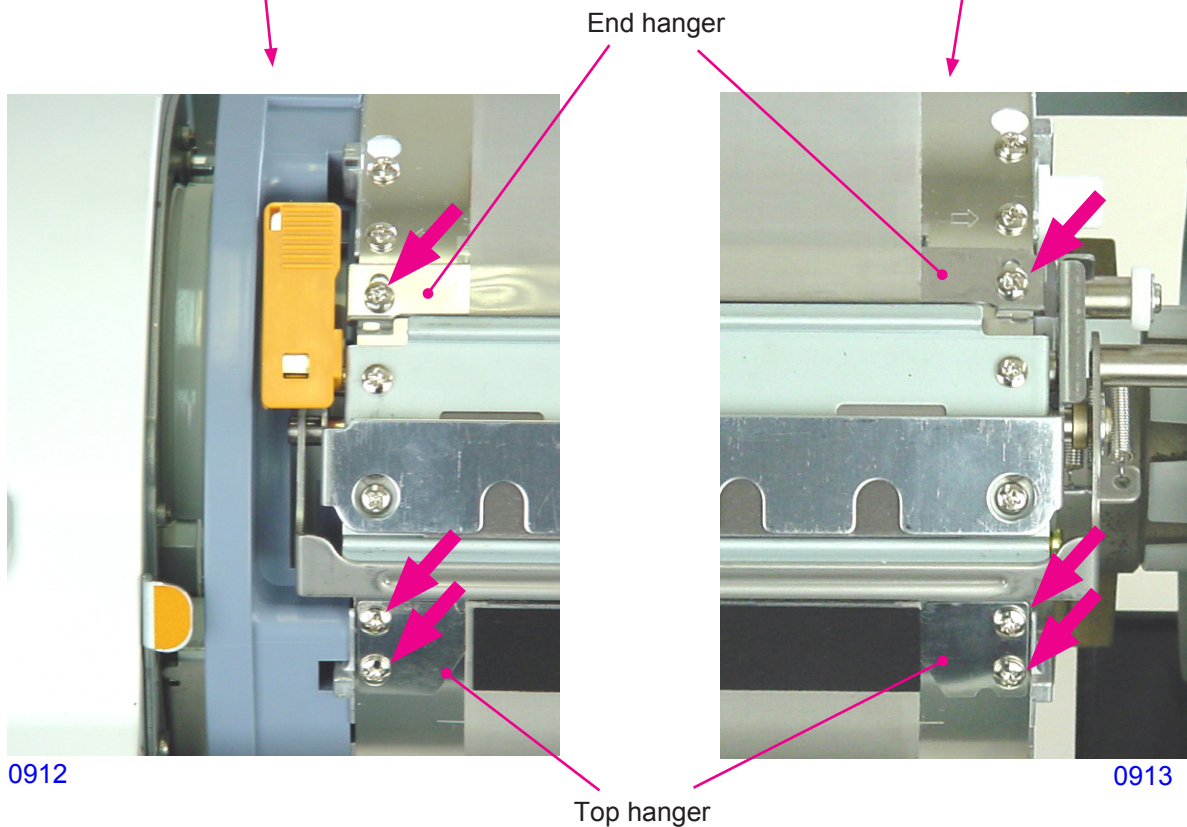
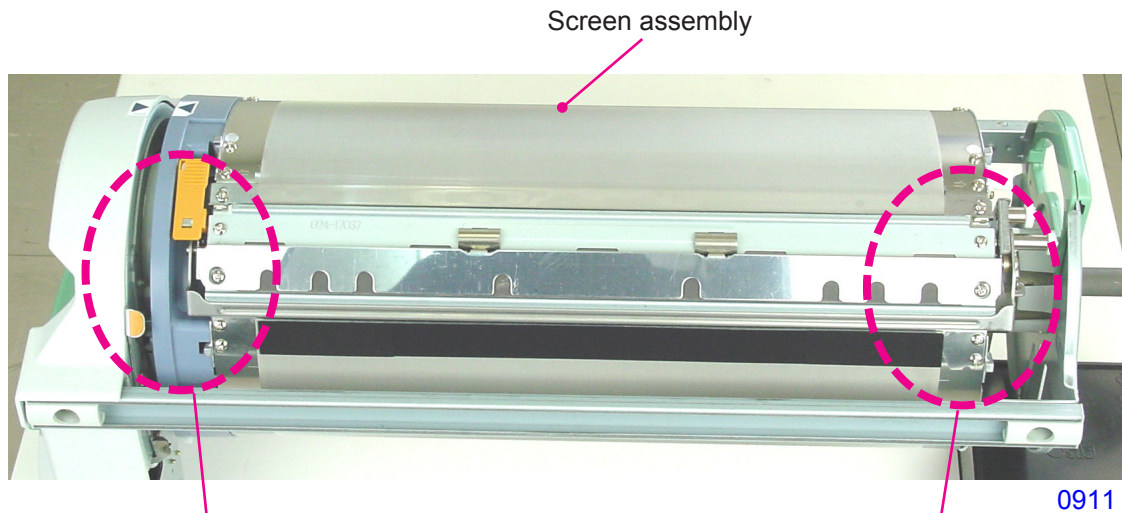
E-ring

2. Removing the Screen Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Make a confidential master on the Print drum and pull the Print drum out of the machine.
- (2) Remove Screws from the End hanger (M3 x 6 screws; 2 pcs).
- (3) Remove Screws from the Top hanger (M3 x 6 screws; 4 pcs) and remove the Screen assembly from the Print drum.

< CAUTION: Do not fold or bend the Screen assembly during the removal or installation >



< Precautions in Reassembly >

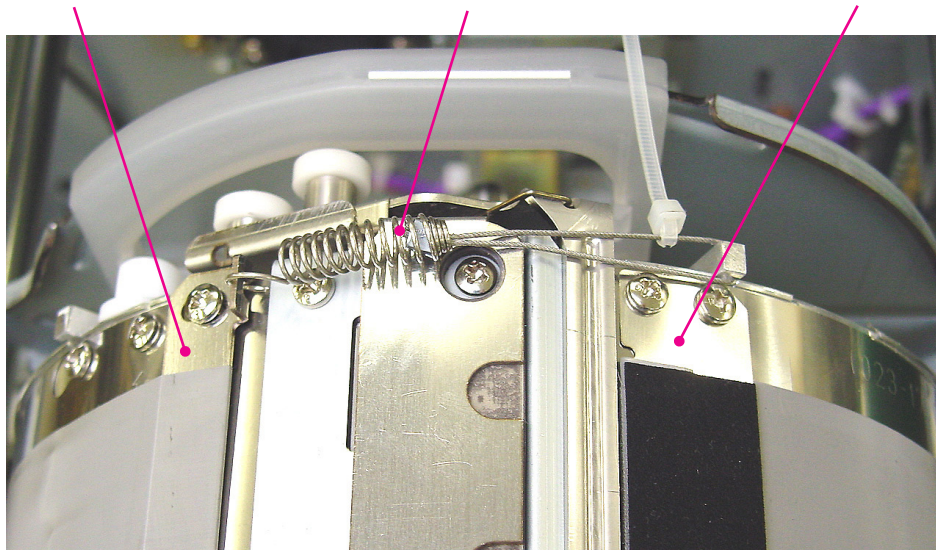
- (1) Mount and screw the Top hanger on the Print drum and wrap the Screen around the Print drum. Then tentatively attach the screws on the End hanger, very lightly.
- (2) Hook the Screen jigs through the holes on the left and right of the End hanger, pull the Screen jig and hook the loop end of the jigs on the short pillars on the left and right Drum flanges, located close to where the Top hanger is. This is to tension the Screen assembly tightly and evenly around the Print drum.
- (3) With the Screen assembly tightly wrapped around the Print drum by the Screen jig, tighten the screws on the End hanger.
- (4) Remove the two Screen jigs from the Print drum once the screws on the End hanger are tightened.



< Screen jig >

0914

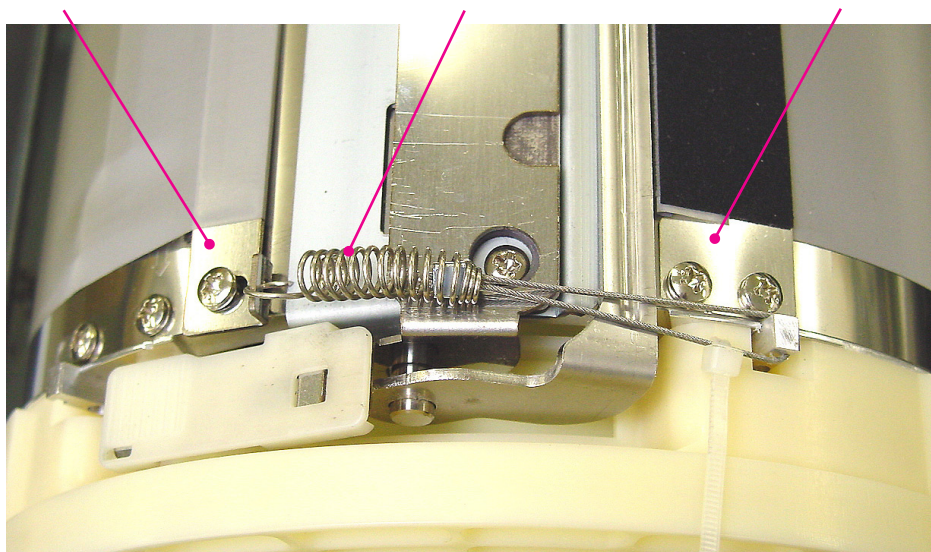
End hanger Screen jig Top hanger



< Rear side >

0915

End hanger Screen jig Top hanger



< Front side >

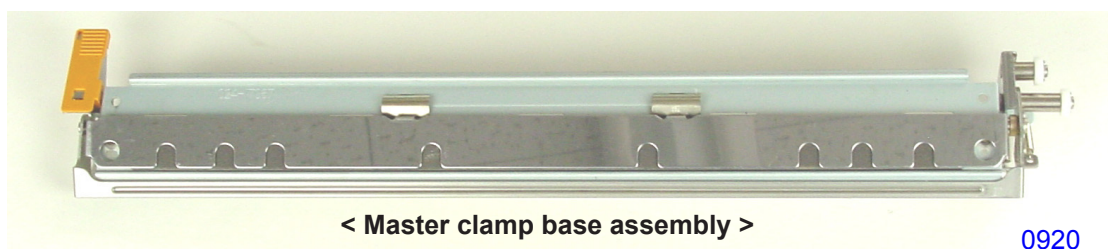
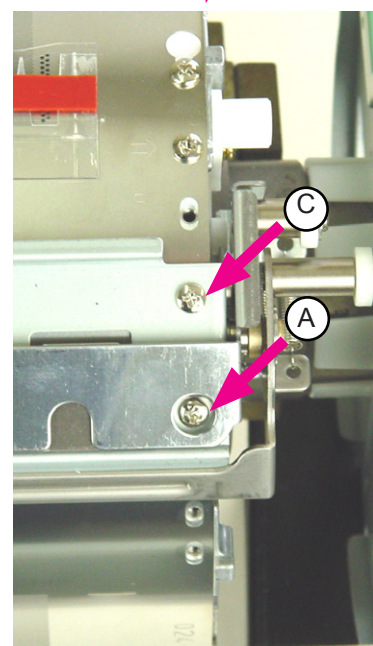
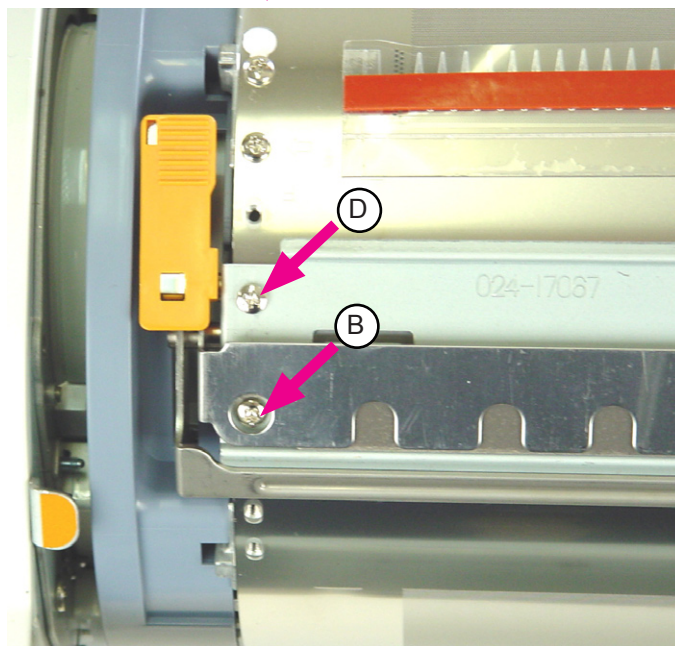
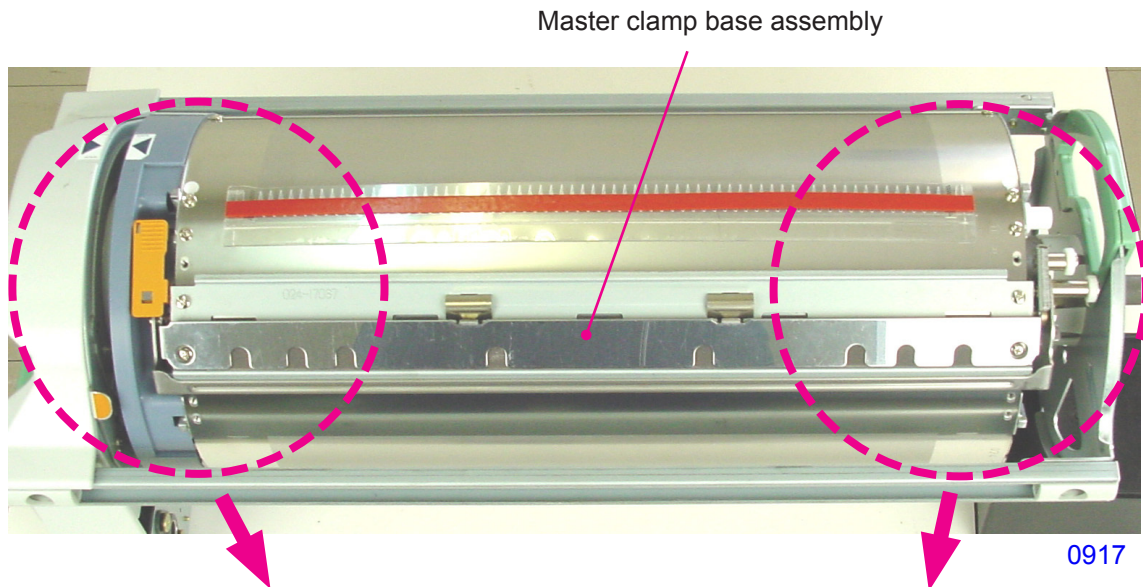
0916

3. Removing the Master Clamp Base Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove screws (M3 x 6 screws; 4 pcs) and remove the Master clamp base assembly from the Print drum.

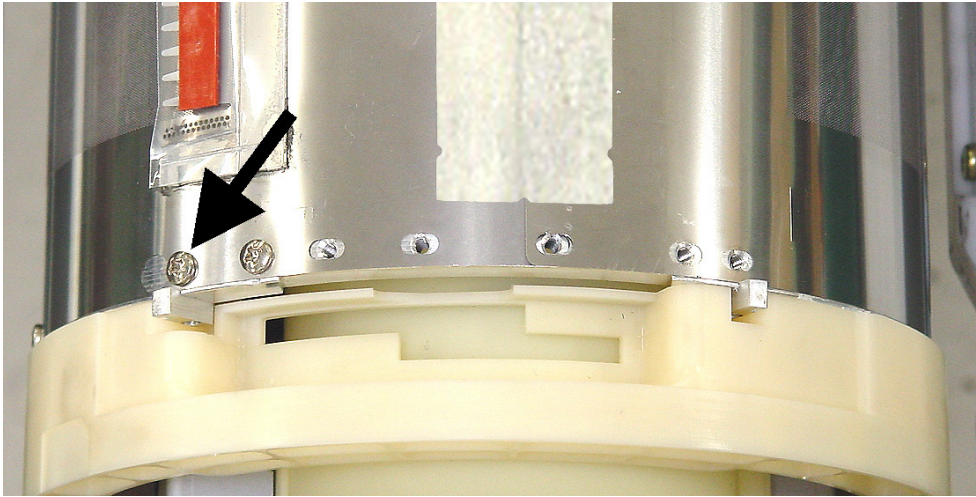
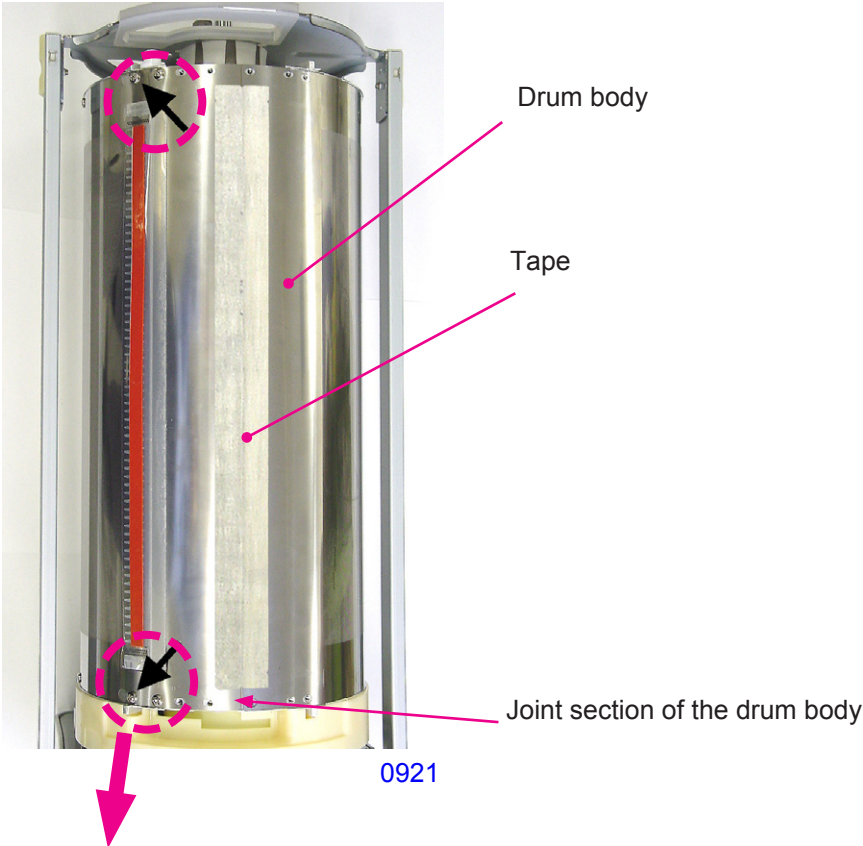
< CAUTION: To attach the Master clamp base assembly, put screws in alphabetic order (refer to figures shown below)>



4. Removing the Drum Body

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
- (3) Loosen screws (M3 x 6 screws; 2 pcs) on the potbelly-shaped hole towards the tail end of the Drum body (indicated by the arrow marks on the photograph), and remove all other remaining screws (M3 x 6 screws; 10pcs).
- (4) Holding the Drum body, so it does not pop open, peel off the tape which holds the top edge of the Drum body onto the tail end of the Drum body. (The tape will be reused in assembly.)
- (5) Slide the Drum body and unhook the potbelly-shaped holes from the two loosened screws, and remove the Drum body.

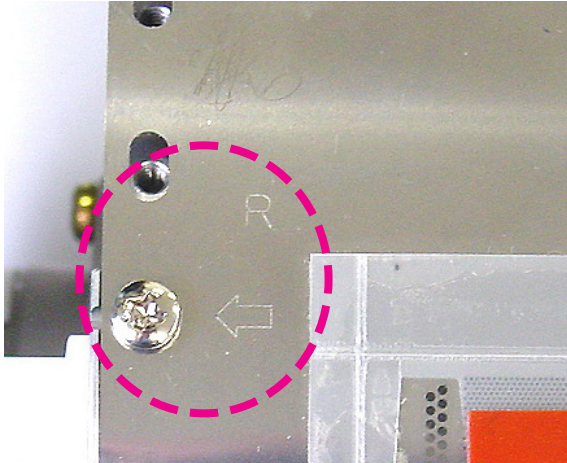


< Enlarged View >

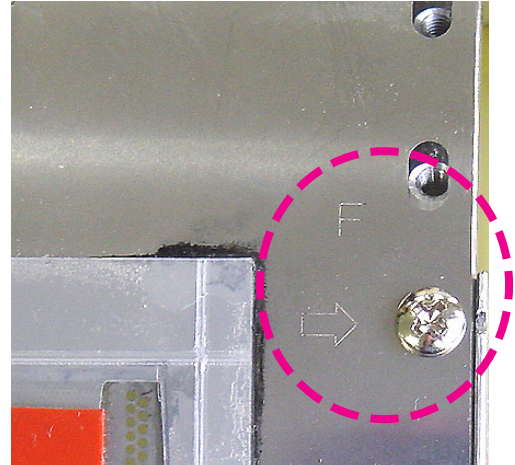
0922

< Precaution in Reassembly >

- (1) On the outskirts of the tail end of the Drum body, close to the Drum flanges are marked with arrow marks and F & R imprints. The F imprint should face the Flange F, and R imprint should face the Flange R. With the Drum body in this direction, hook the potbelly shaped holes of the Drum body onto the two loosened existing screws on the Drum flanges F and R.
- (2) Tentatively place one screw each on the screw holes which the arrow marks point to.

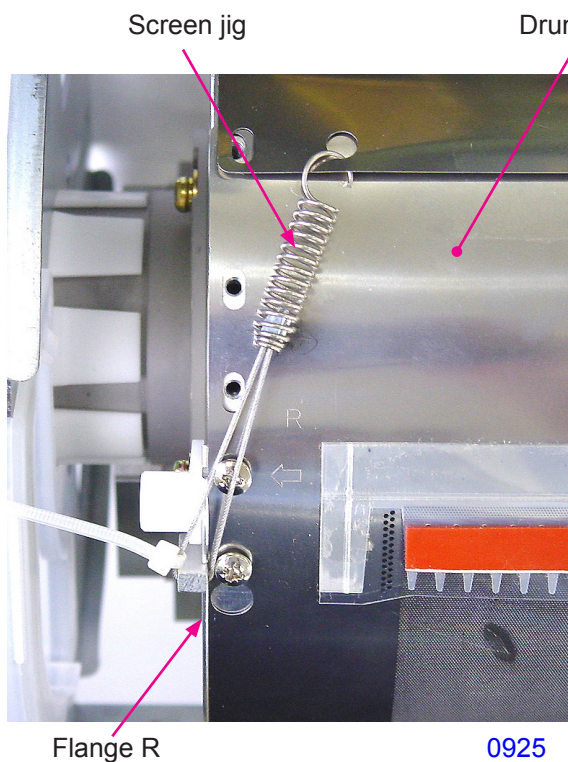


0923

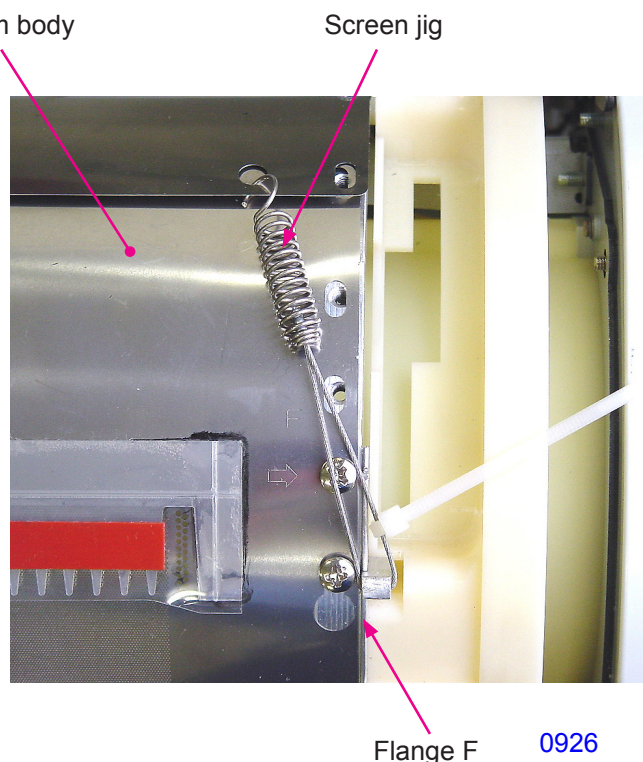


0924

- (3) Hook the Screen jigs into the holes on the Drum body located at the inner edge of the top of the Drum body, and hook the loop ends of the jig on the pillars on the Drum flanges F and R.
- (4) Push the Flange F and Flange R tightly against the Drum body, and tighten the two screws at the arrow marks which were previously tentatively mounted.
- (5) Likewise, push the Flange F and Flange R tightly against the Drum body and tighten the two loose screws at the potbelly holes of the Drum body, and then mount and tighten all the remaining screws around the Drum body while pushing the Flanges tightly against the Drum body.

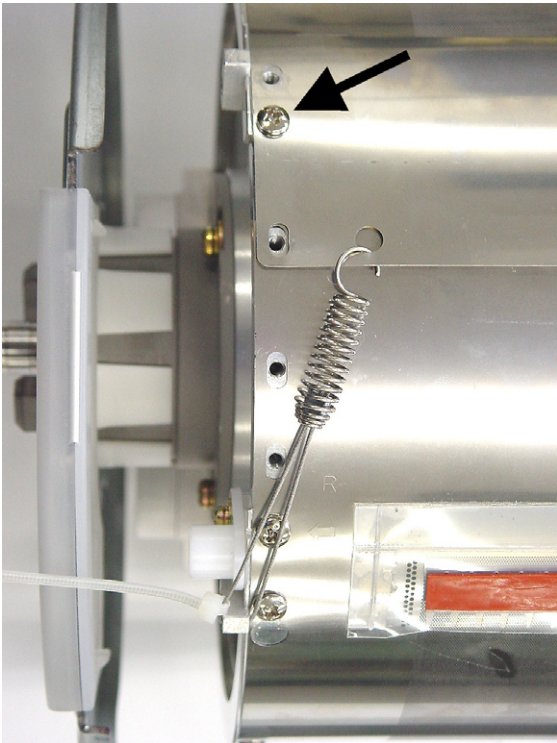


0925

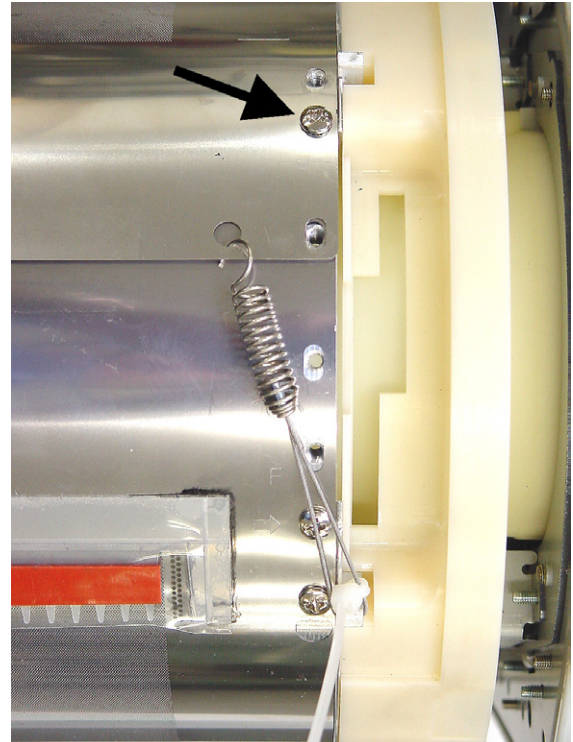


0926

- (6) On the second screw holes from the top at the top edge of the Drum body, use Screws (M3 x 6 screws; 2 pcs) from another part of the Print drum to tighten the Drum body onto the Drum flanges.



0927



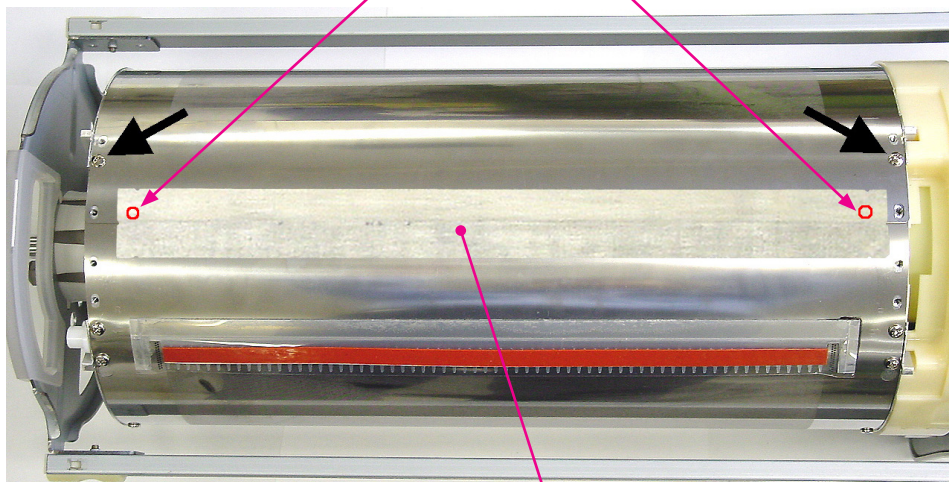
0928

- (7) Remove the Screen jigs off the Print drum, and place the adhesive tape back on the joint section of the Drum body while pushing down the joint section for a tight hold by the tape.

If the joint is not held firmly by the tape, that will cause the master to wrinkle during the master loading on the Print drum or generate noise during the Print drum rotation in printing.

- (8) Remove the two screws used by above step (6).

< Holes to hook the Screen jigs on the Drum body >



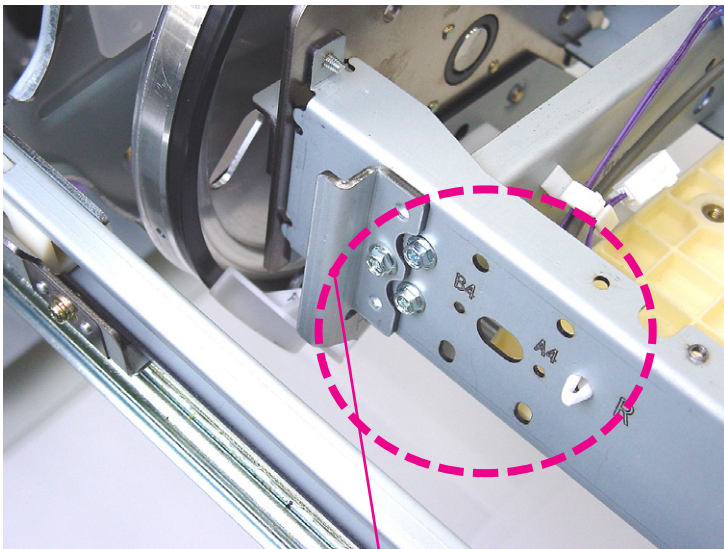
Adhesive tape

0929

5. Removing the Ink Scraper F & R

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
- (3) Remove Screws (M3 x 8 screws; 1pc each), and remove the Ink scraper F & R.



Ink scraper R

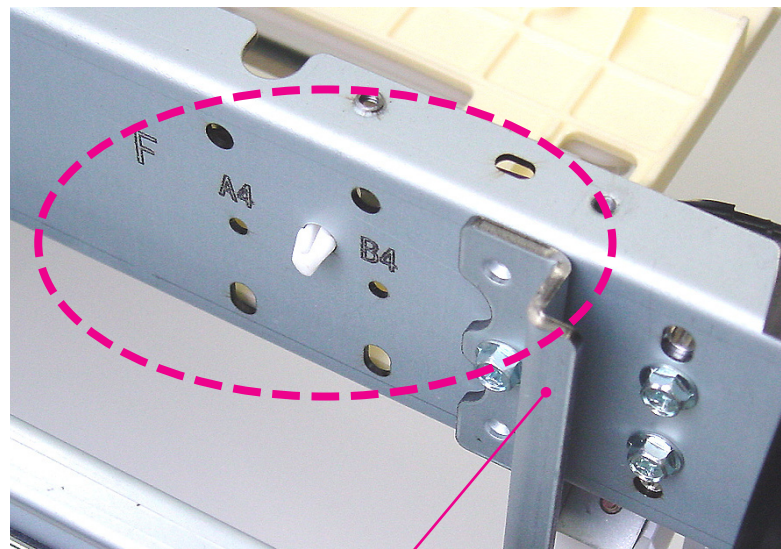
0930



< Ink scraper R > 0931



< Ink scraper F > 0932



Ink scraper F

0933

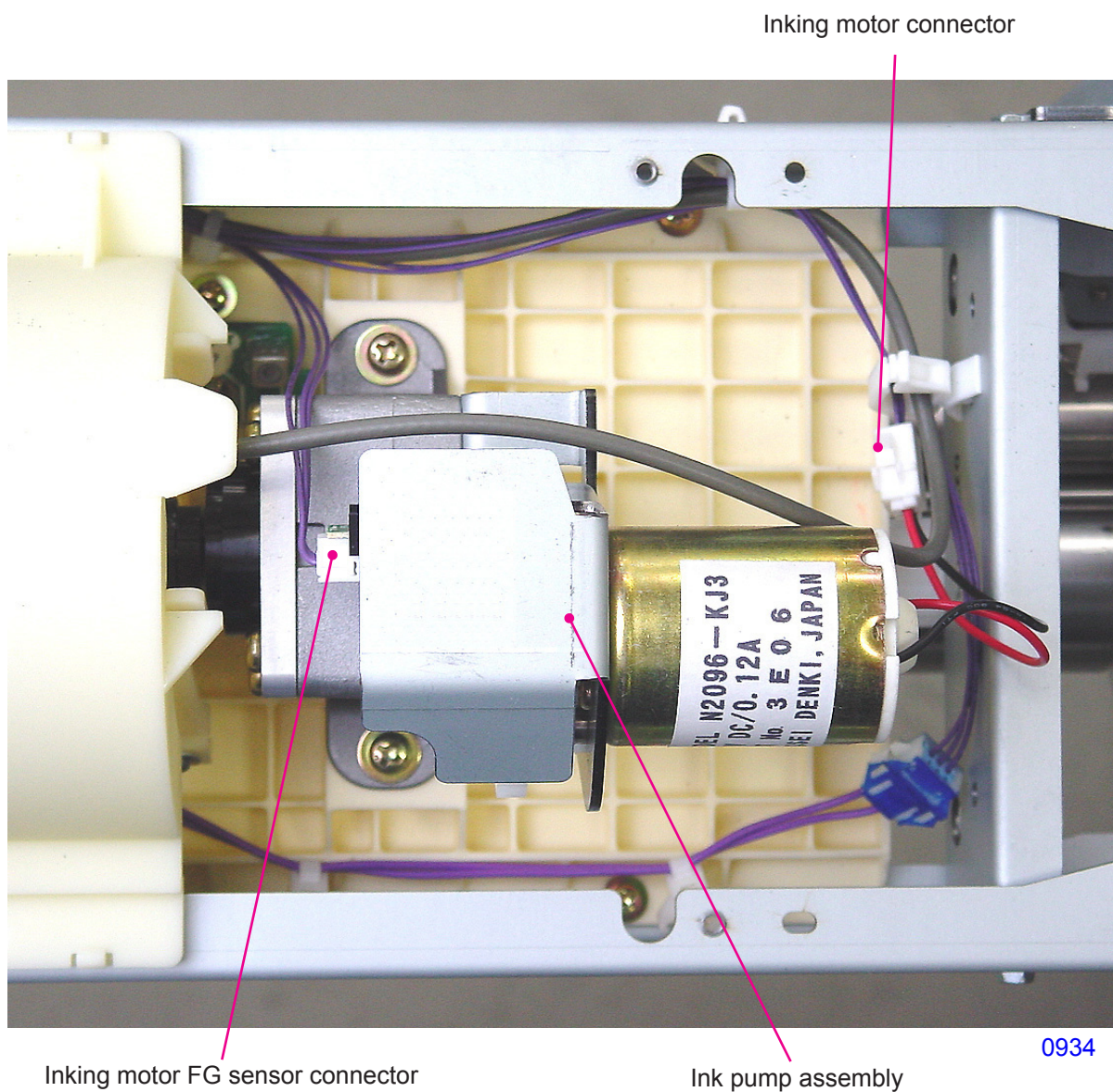
< Precautions in Reassembly >

When attach the Ink scraper F & R back on the drum, make sure to put them on correct place. Refer to the drum size imprint as shown in the photograph. Use the A3 imprint position for A3/Ledger machine.

6. Removing the Ink Pump Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

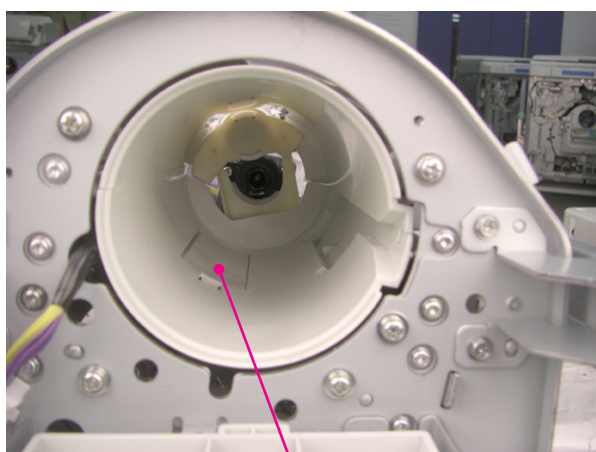
- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
- (3) Disconnect the Inking motor FG sensor connector and the Inking motor connector. Then remove screws (M4 x 8 screws; 2 pcs) and remove the Ink pump assembly.



7. Removing the Ink Bottle Guide Assembly

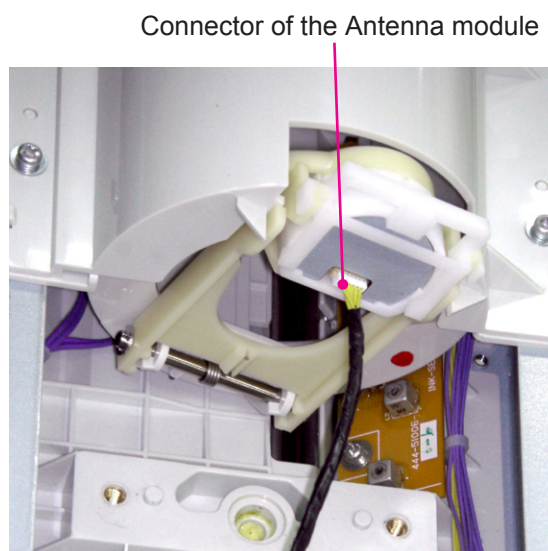
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Ink pump assembly
- (3) Remove the Inspection cap from the inside of the Ink bottle guide.
- (4) Gently pull out the connector pin from the Antenna PCB. Then disconnect the Ink bottle set switch connector and remove the two Reusable bands from the Print drum frame.
- (5) Remove screws (M3 x 8 screws; 4 pcs), and lift out the Ink bottle guide assembly from the Print drum after sliding it towards the center of the drum.

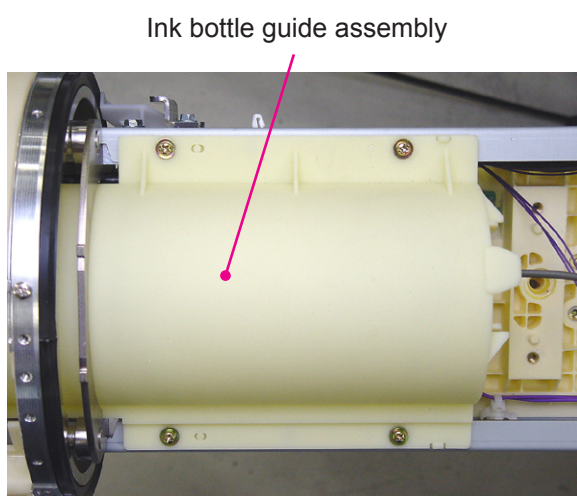


Inspection cap

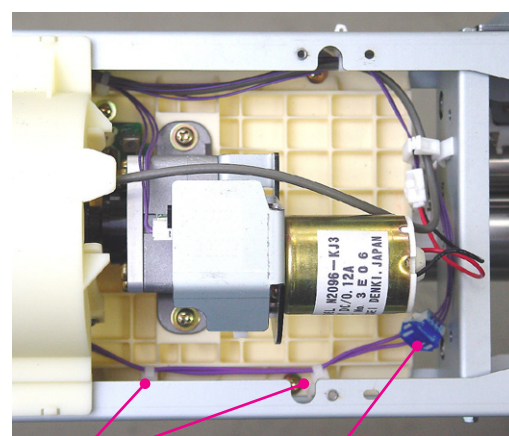
0975



0976



0937



0934

Reuse band

Connector of the Ink bottle set switch

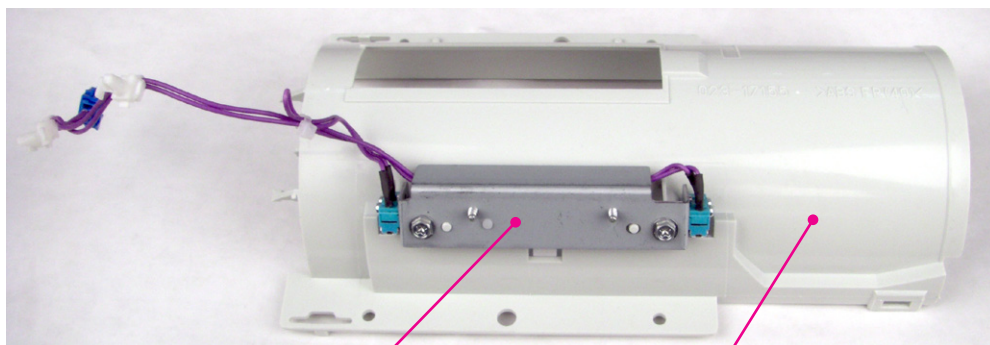
8. Removing the Ink Bottle Lock Assembly & Antenna PCB

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Ink pump assembly
 - Ink bottle guide assembly

Removing the Ink Bottle Lock Assembly

- (3) Remove screws (M3 x 8 screws; 2 pcs) and remove the Ink bottle lock assembly from the Ink bottle guide assembly.



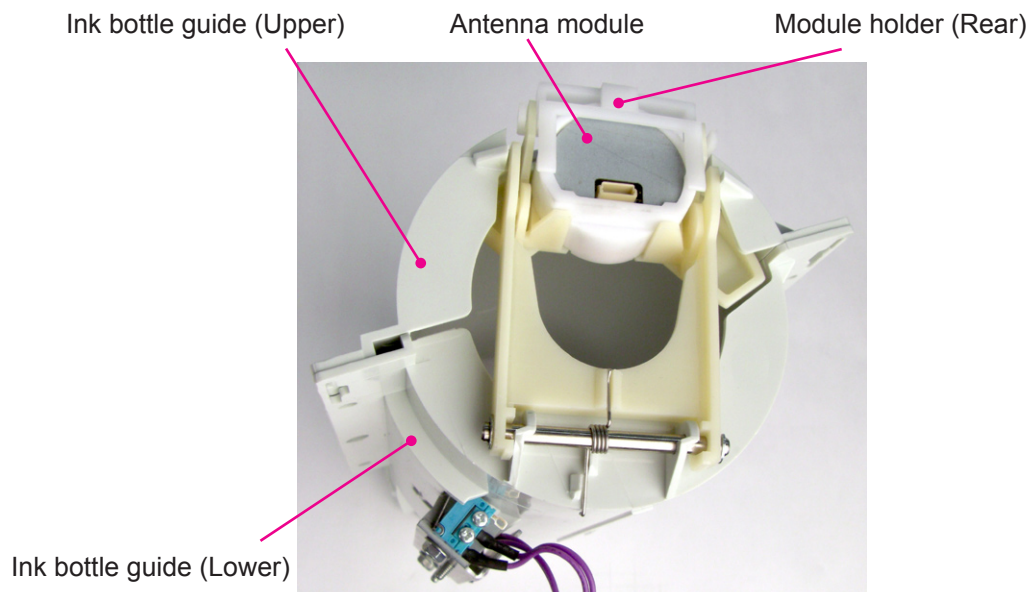
Ink bottle lock assembly

Ink bottle guide assembly

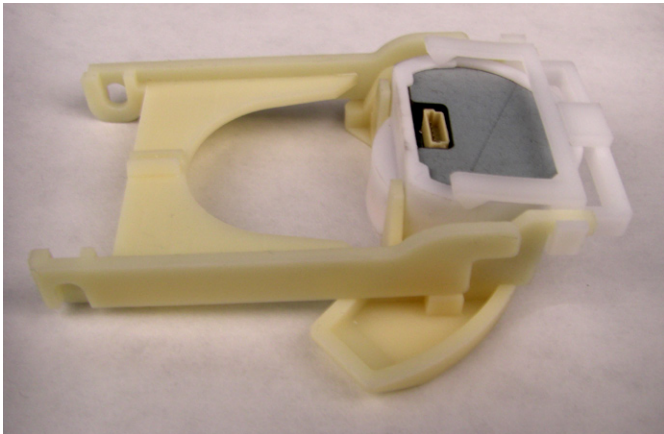
0977

Removing the Antenna Module

- (3) Remove the Antenna module from the PCB holder (Rear) by unhooking the claws.

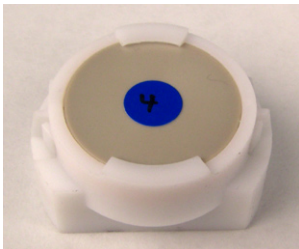


0978

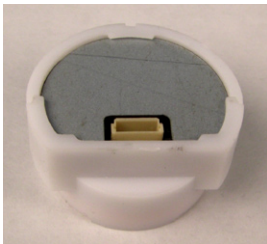


0979

Antenna module

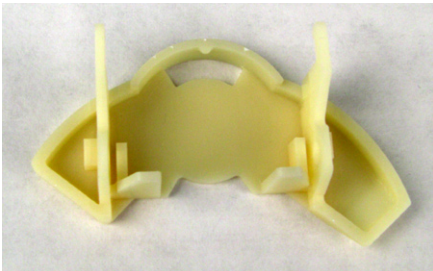


0980



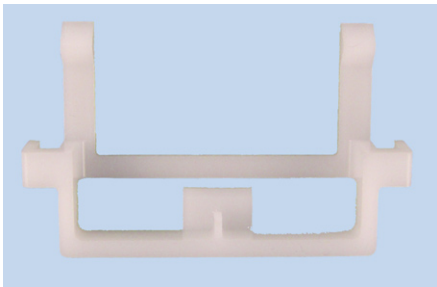
0981

Module holder

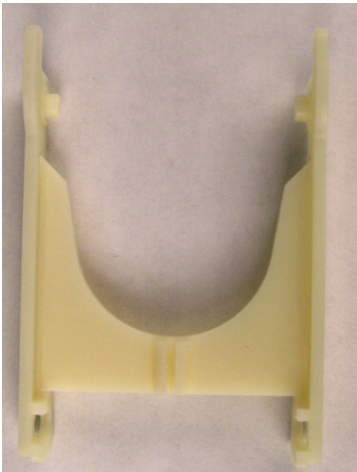


0982

Module holder (Rear)



0983

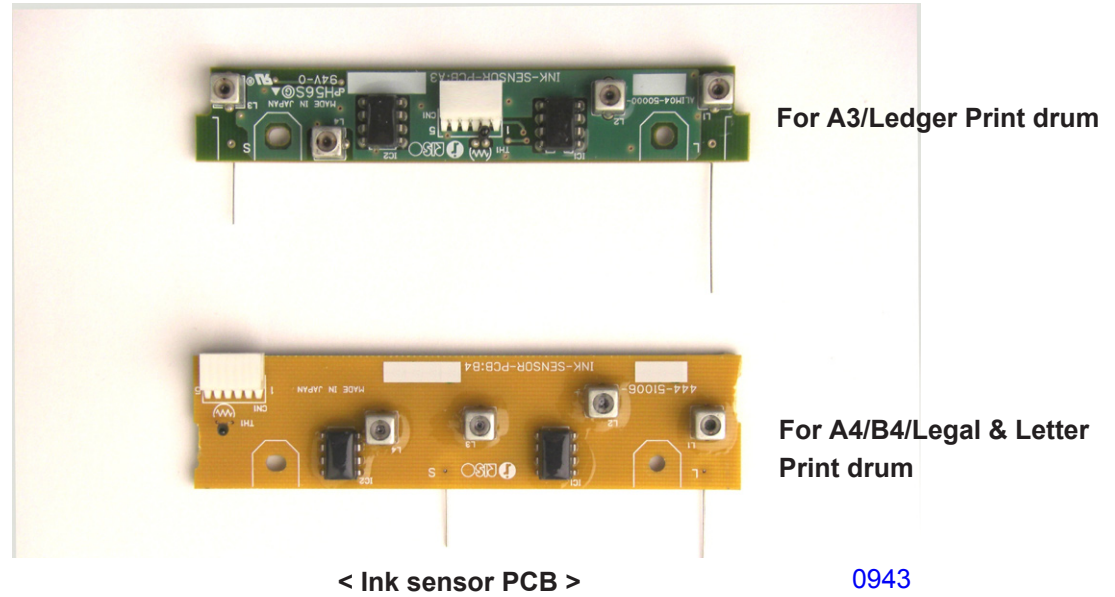
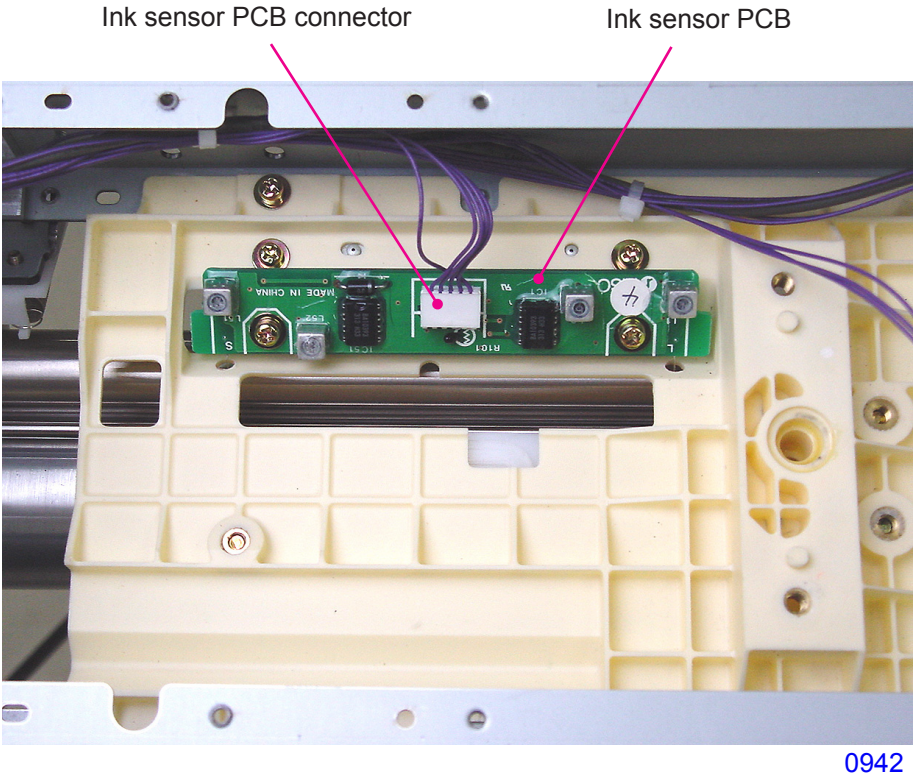


0984

9. Removing the Ink Sensor PCB

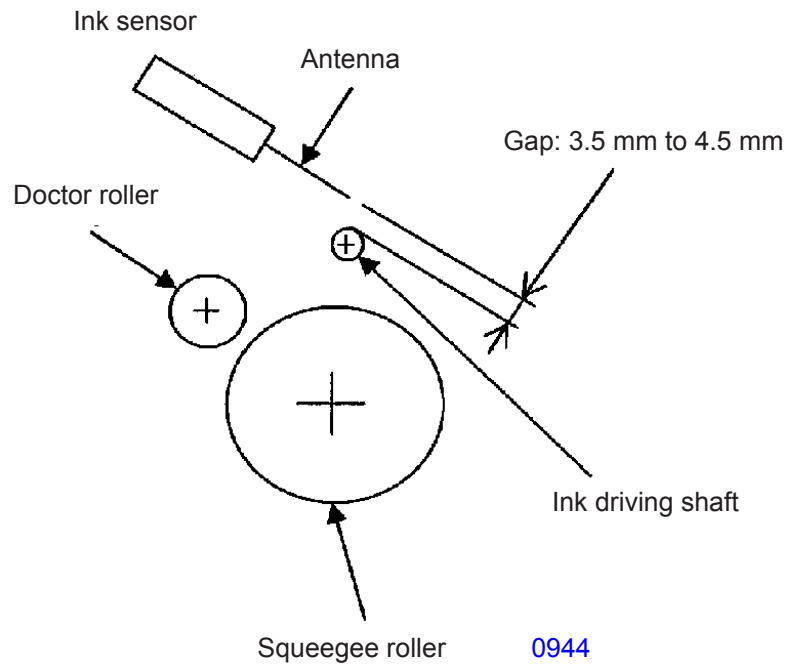
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Ink pump assembly
 - Ink bottle guide assembly
- (3) Disconnect the Ink sensor PCB connector, remove screws (M3 x 8 screws; 2 pcs) and remove the Ink sensor PCB.



< Precautions in Reassembly >

When attach the Ink sensor, make sure to place the Ink sensor antenna position to that explained as following figure (gap = 3.5 to 4.5 mm).

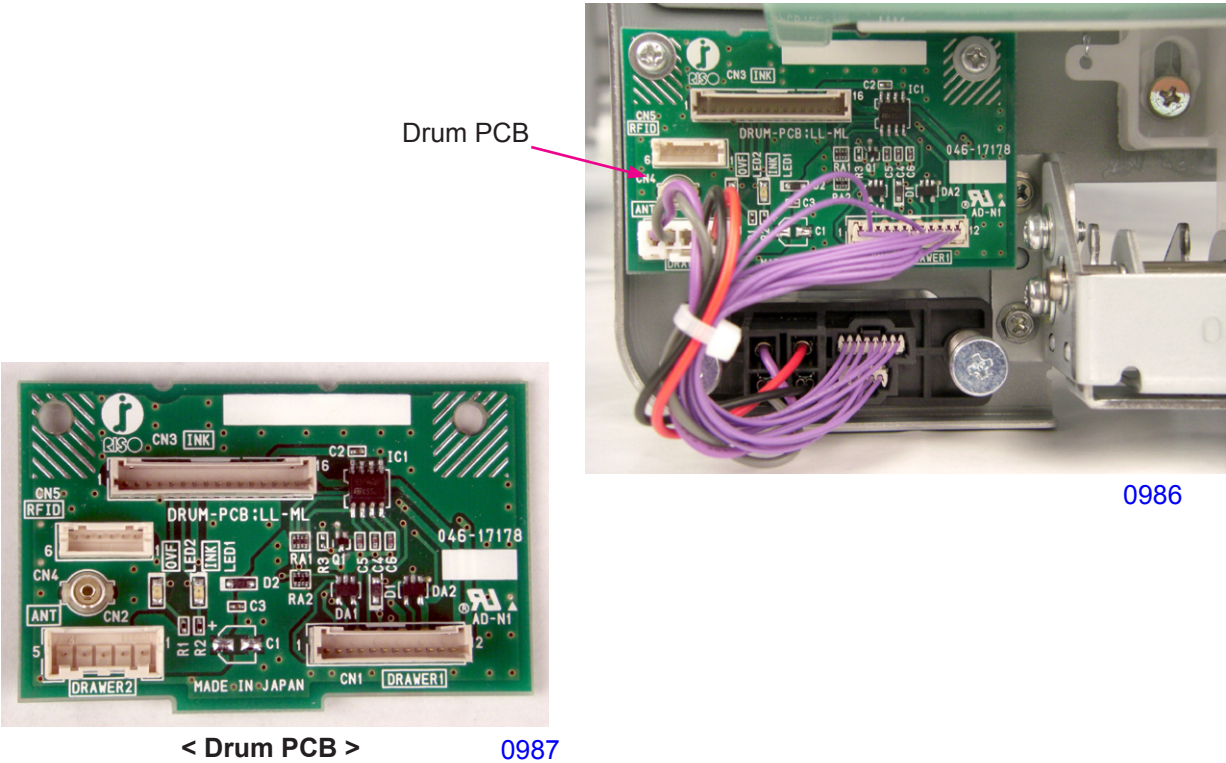
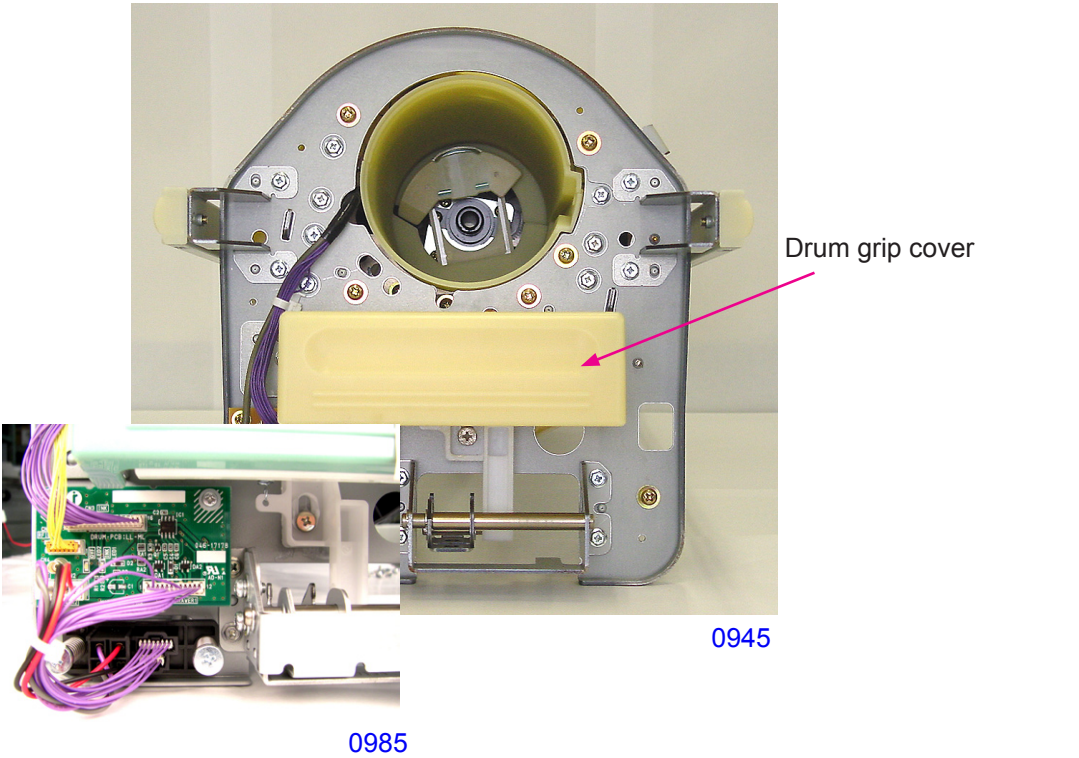


10. Removing the Drum PCB

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Remove the Print drum from the machine, and remove the Drum cover from the Print drum by removing screws (M3 x 6 screws; 4 pcs).
- (2) Remove the Drum grip cover by removing Screws (M3 x 8 screws; 2 pcs).
- (3) Disconnect connectors (4 locations), remove screws (M3 x 8 screws; 2 pcs) and remove the Drum PCB.

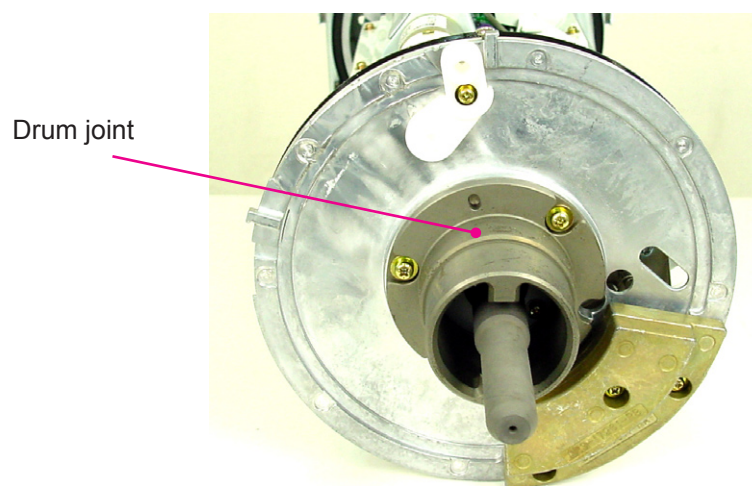
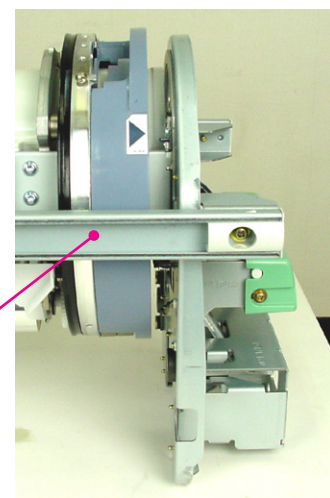
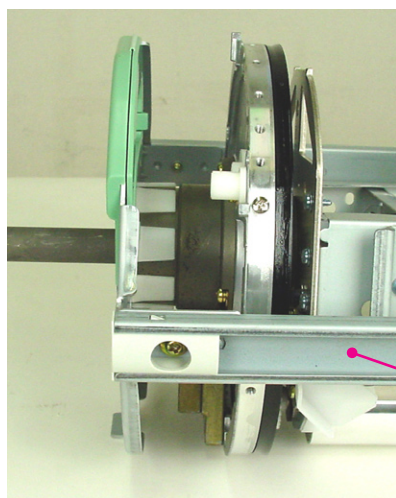
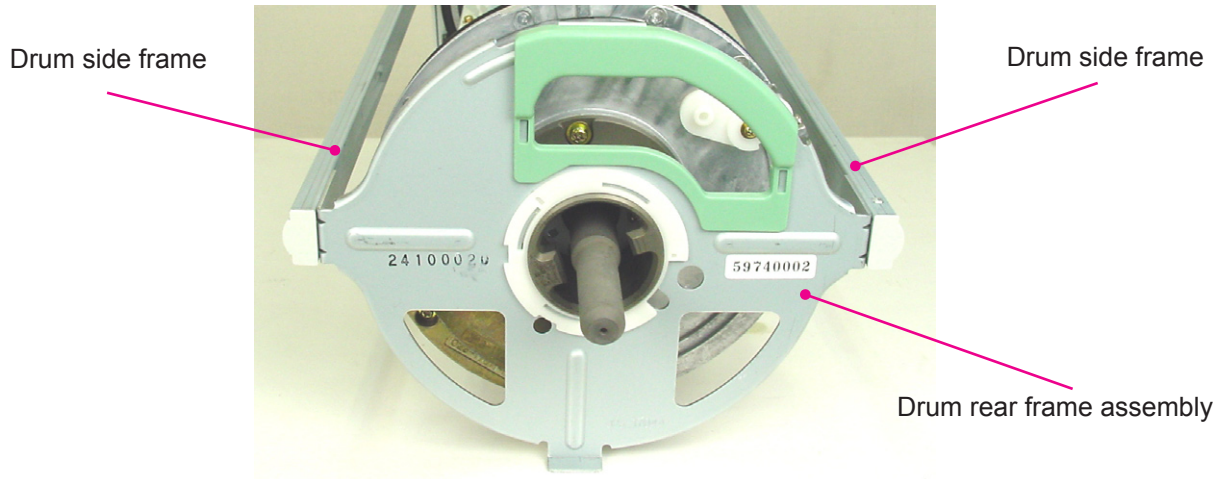
< CAUTION: Refer to Chapter 18 in replacing the Drum PCB >



11. Removing the Drum Joint

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

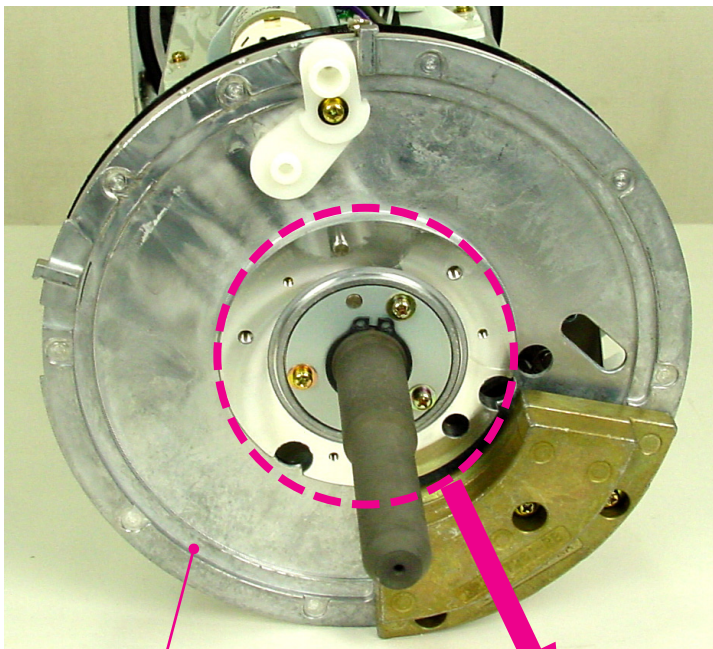
- (1) Remove the Print drum from the machine.
- (2) Remove both the left and right Drum side frames by removing screws (M4 x 8 screws; 2 pcs each).
- (3) Gently pull out the Drum rear frame assembly off the Drum joint.
- (4) Remove screws (M4 x 8 screws; 3 pcs) and remove the Drum joint.



12. Removing the Flange R

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

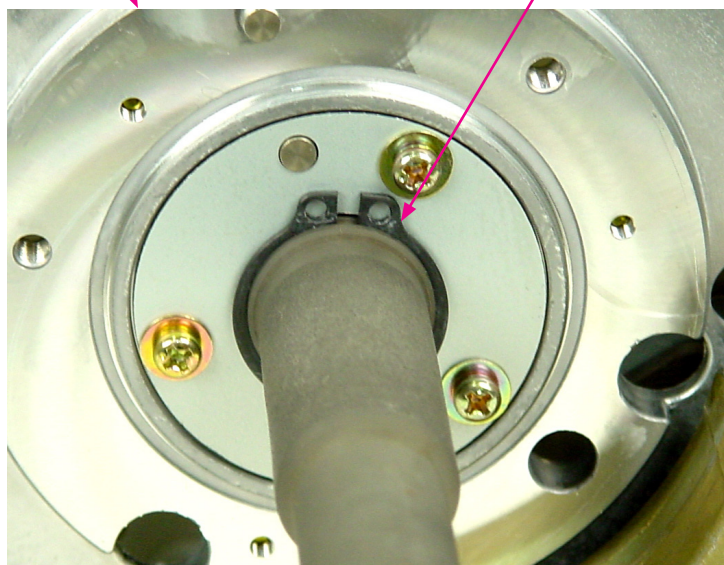
- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Drum side frames (2 pcs)
 - Drum rear frame assembly
 - Drum joint
- (3) Remove the C-ring (20 mm diameter; 1 pc) and remove the Flange R.



Flange R

0950

C-ring



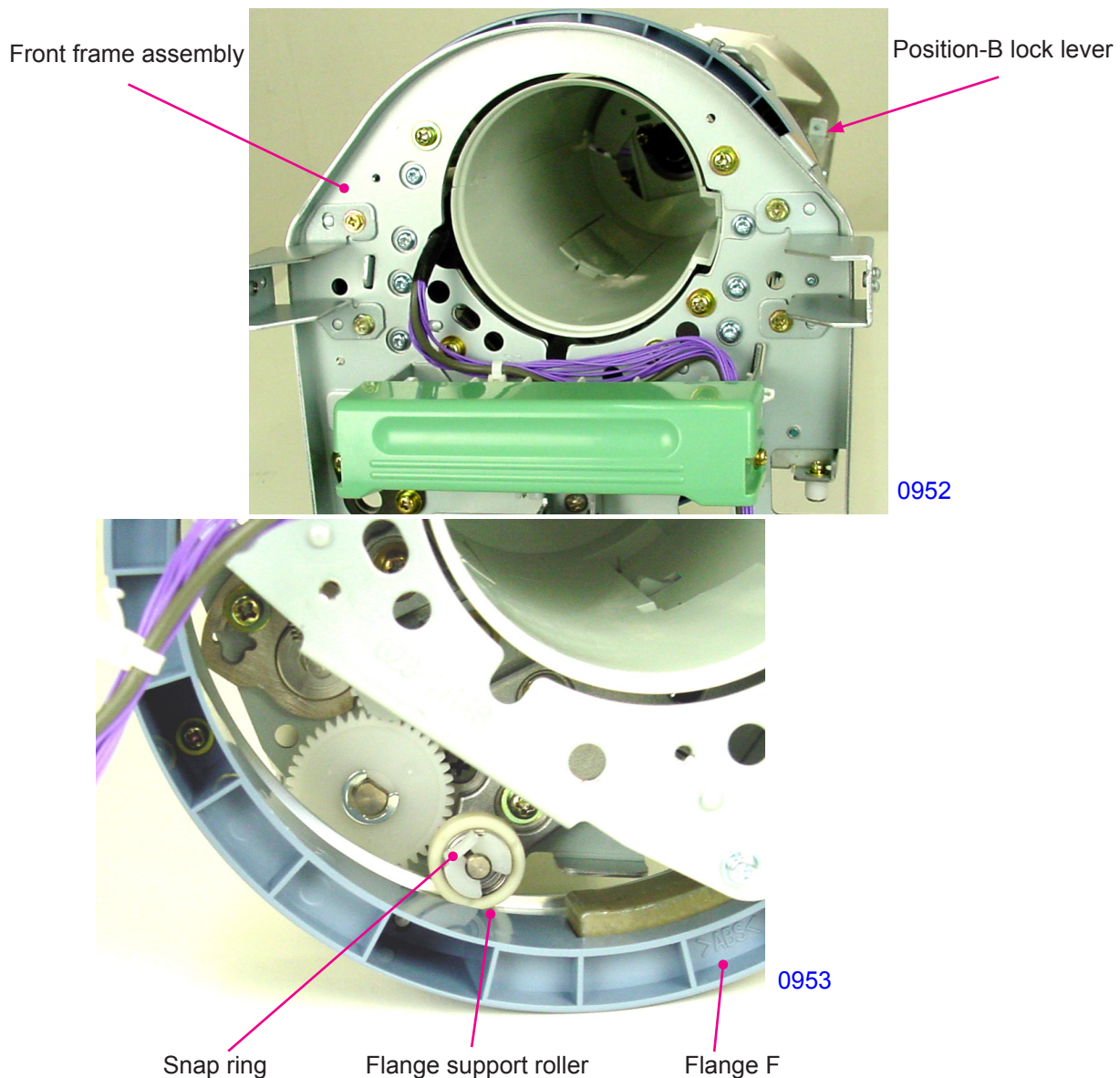
0951

13. Removing the Flange F

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Drum side frames (2 pcs)
- (3) Disconnect two connectors from the Print drum PCB, remove one Reusable band from the Drum front frame assembly and remove the Drum front frame assembly by removing screws (M4 x 8 screws; 5 pcs).
- (4) Remove the Snap ring on the Flange support roller found at the bottom of the Print drum, and remove the Flange support roller.
- (5) Remove the Flange F.

< NOTE: Remaining two Flange support rollers can be removed after removing the flange-F >

**< Precautions in Reassembly >**

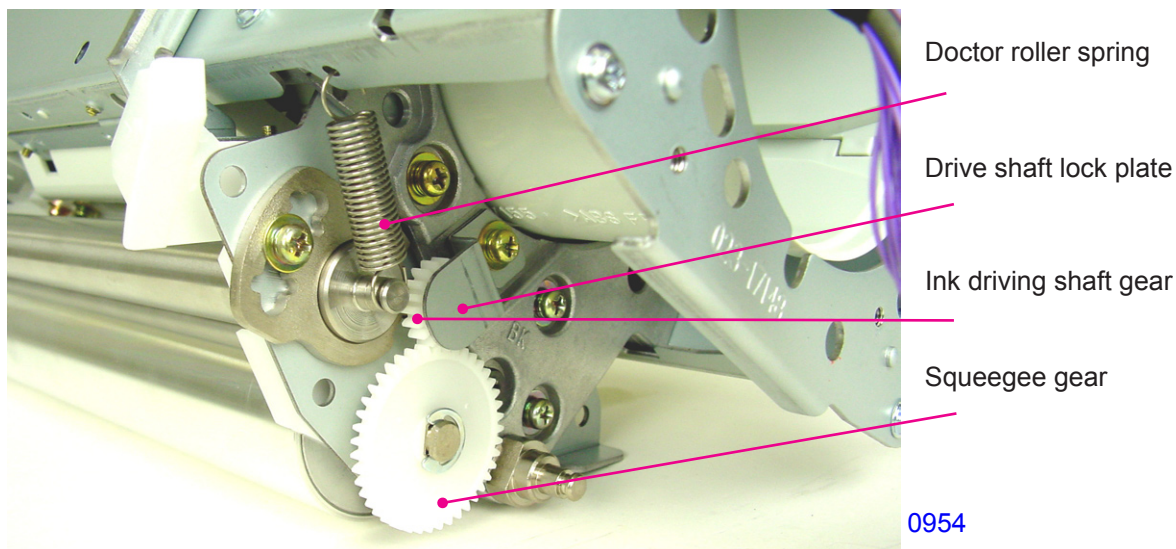
When attach the Drum front frame assembly, push the Position-B lock lever to avoiding the tip of the Position-B lock lever from going into any of the wrong holes on the Flange F.

14. Removing the Squeegee Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

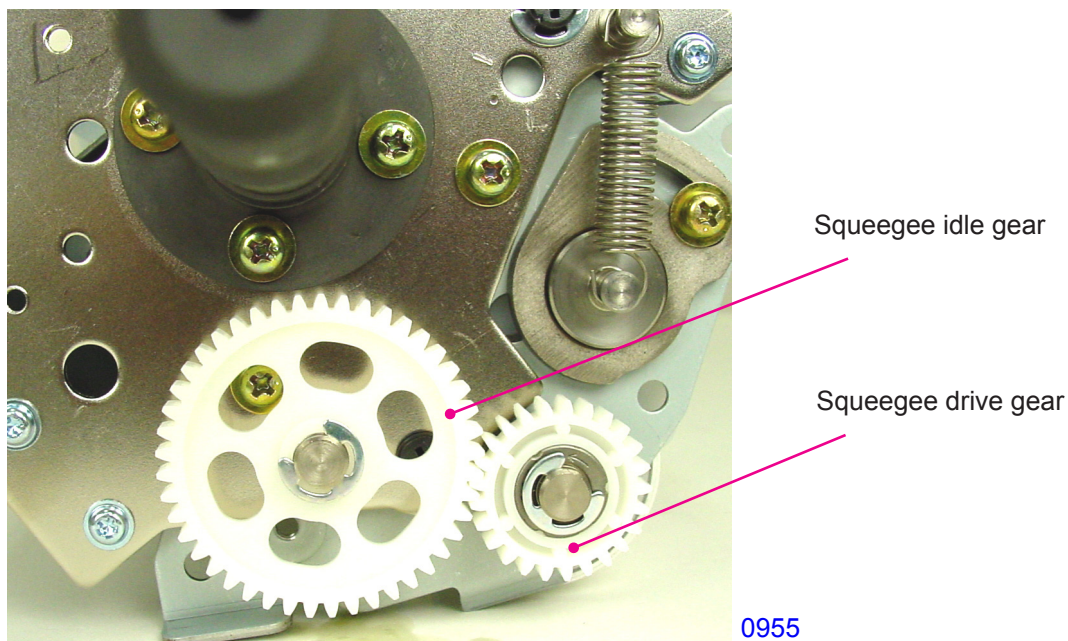
- (1) Make a confidential master on the Print drum and pull out the Print drum from the machine.
- (2) Remove the following components.

-Screen assembly	-Master clamp base assembly
-Drum body	-Drum cover
-Drum side frames (2 pcs)	-Drum rear frame assembly
-Drum joint	-Flange R
-Drum front frame assembly	-Flange F
-Doctor roller spring (2 pcs)	
- (3) Remove the Drive shaft lock plate by removing a Screw (M4 x 8 screw; 1 pc).
- (4) Remove the Ink driving shaft gear.
- (5) Remove the Squeegee gear by removing an E-ring.



< Front side >

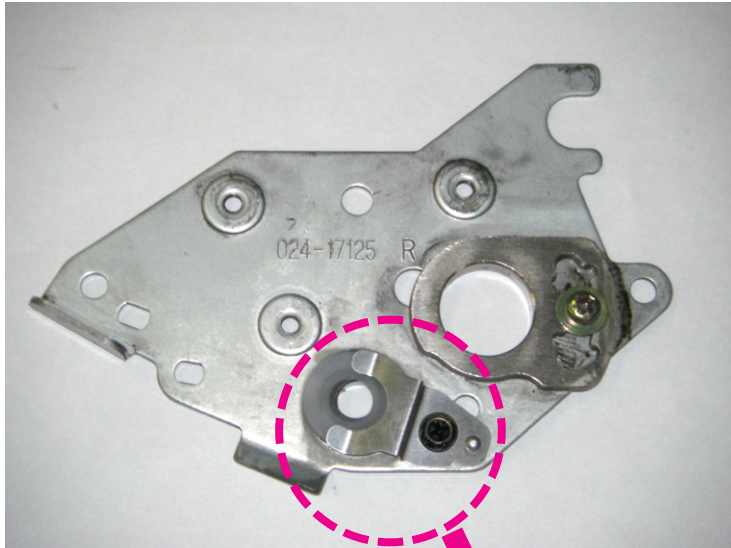
- (6) Remove the Squeegee idle gear by removing an E-ring (6 mm diameter; 1 pc).
- (7) Remove the Squeegee drive gear by removing an E-ring. (6 mm diameter; 1 pc).



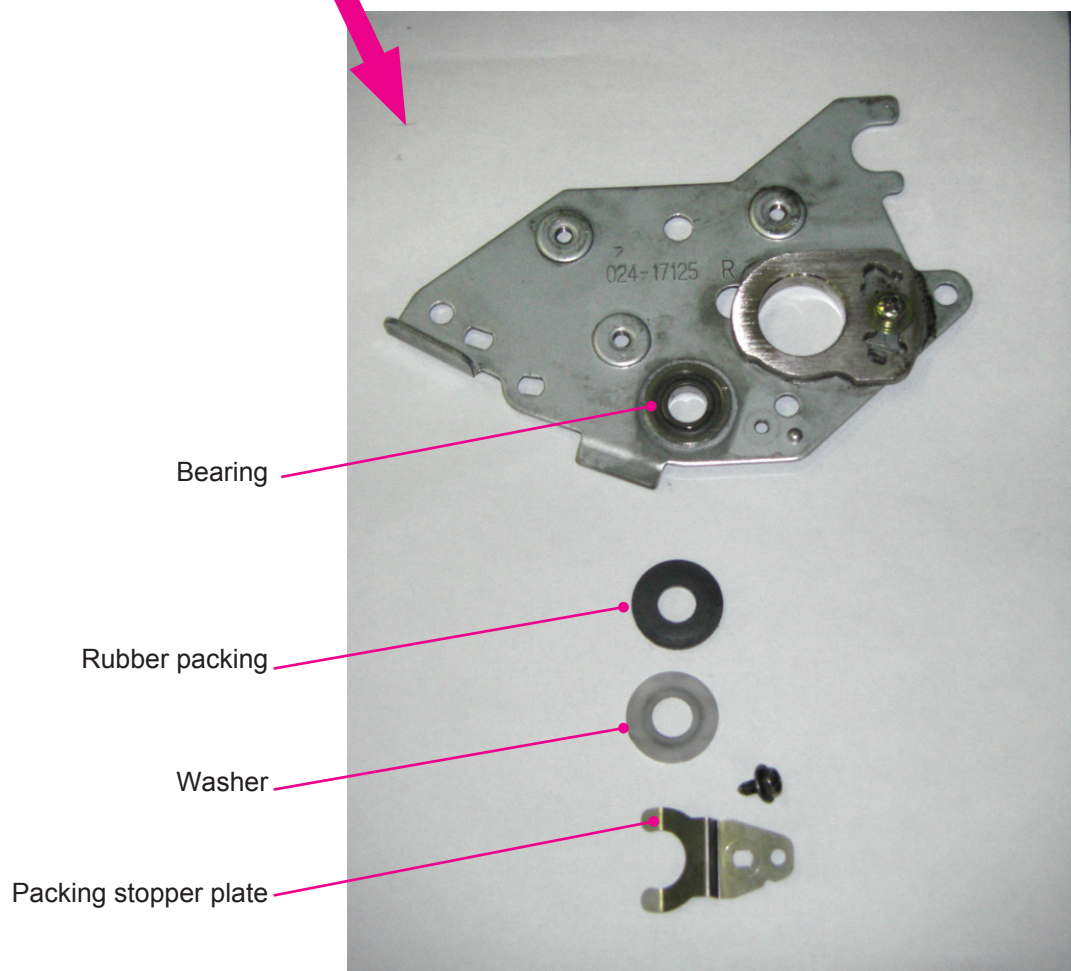
< Rear side >

< NOTE >

For A3/Ledger Print drum, remove the Packing stopper, Washer and Rubber packing by removing a screw (M3 x 6 screw; 1 pc). Make sure that remove these parts in the Front side and the Rear side.

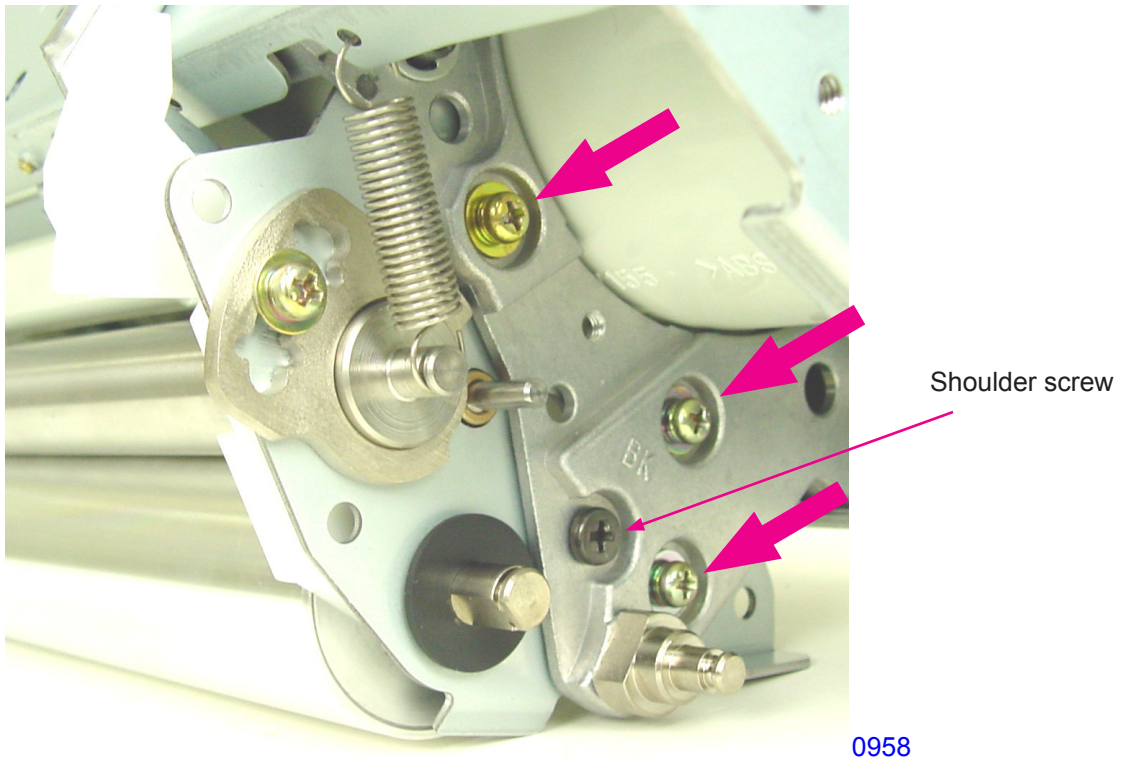


0956

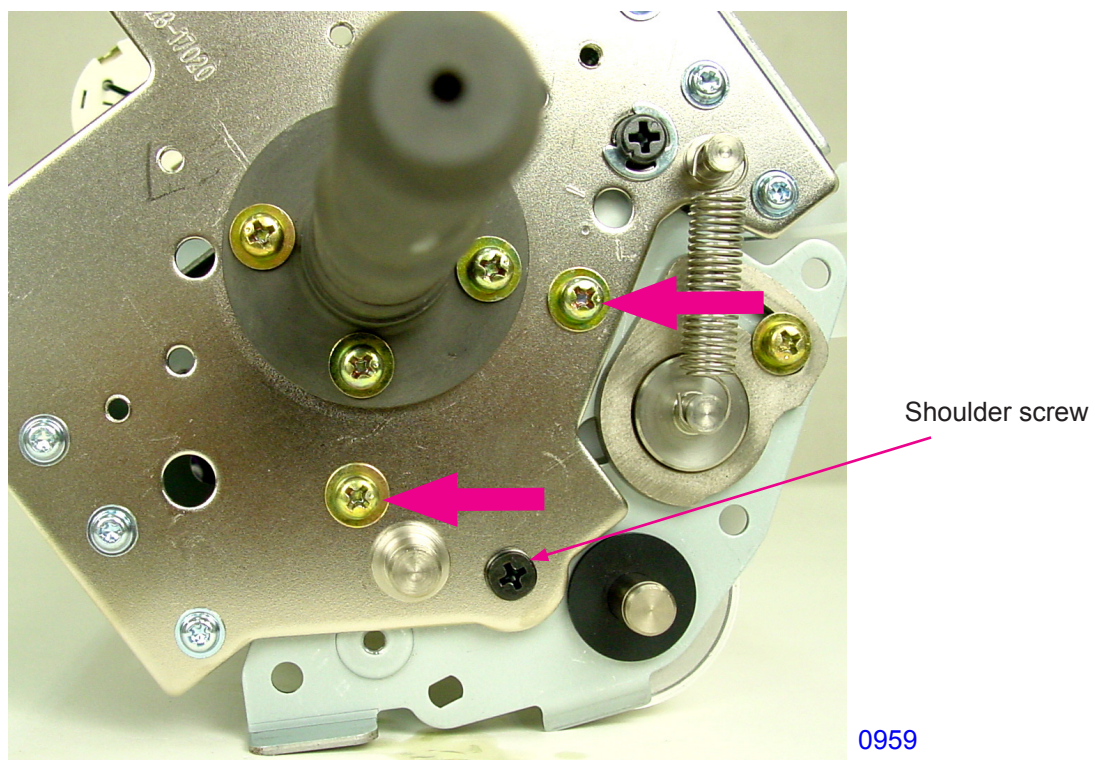


0957

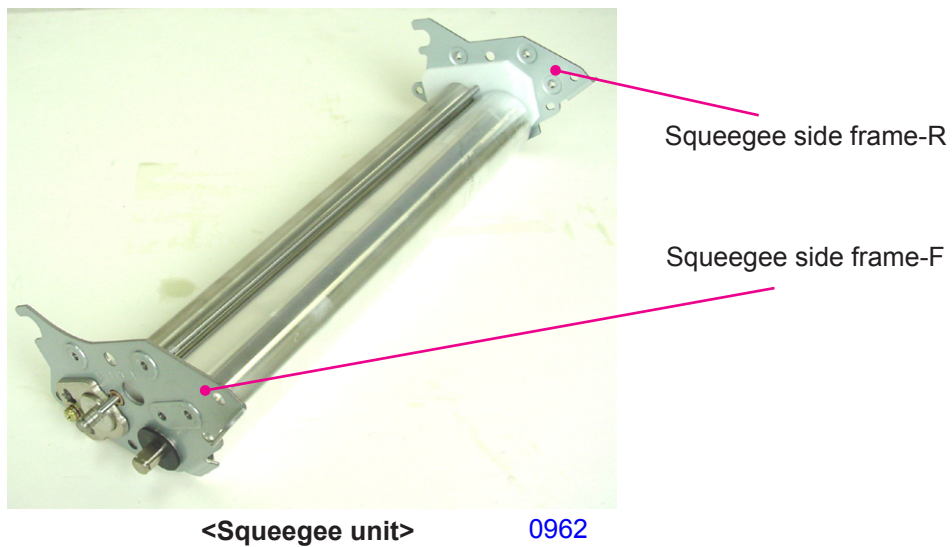
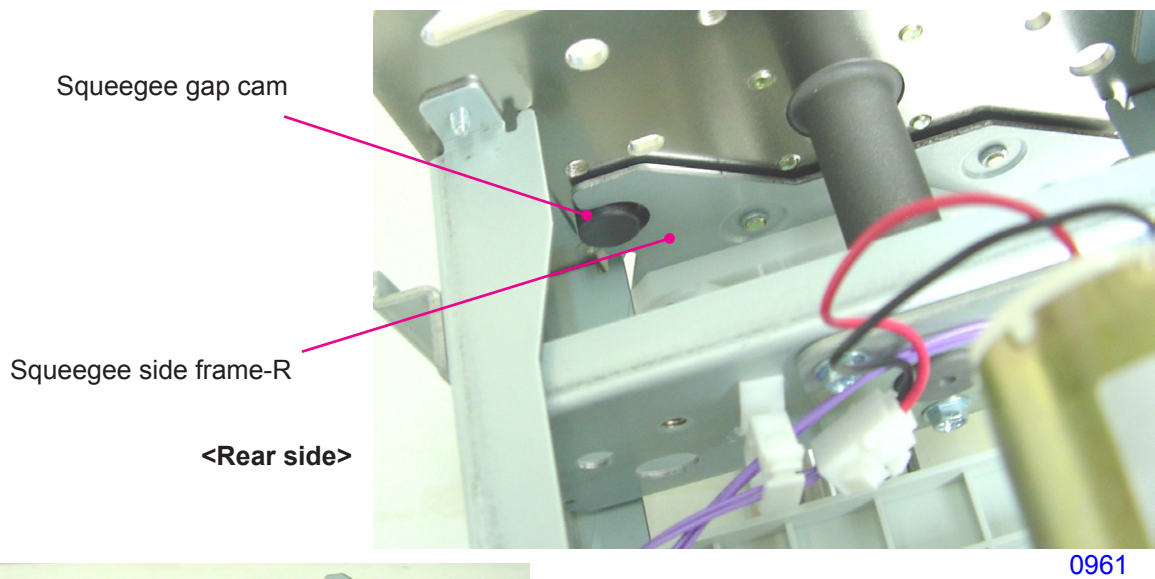
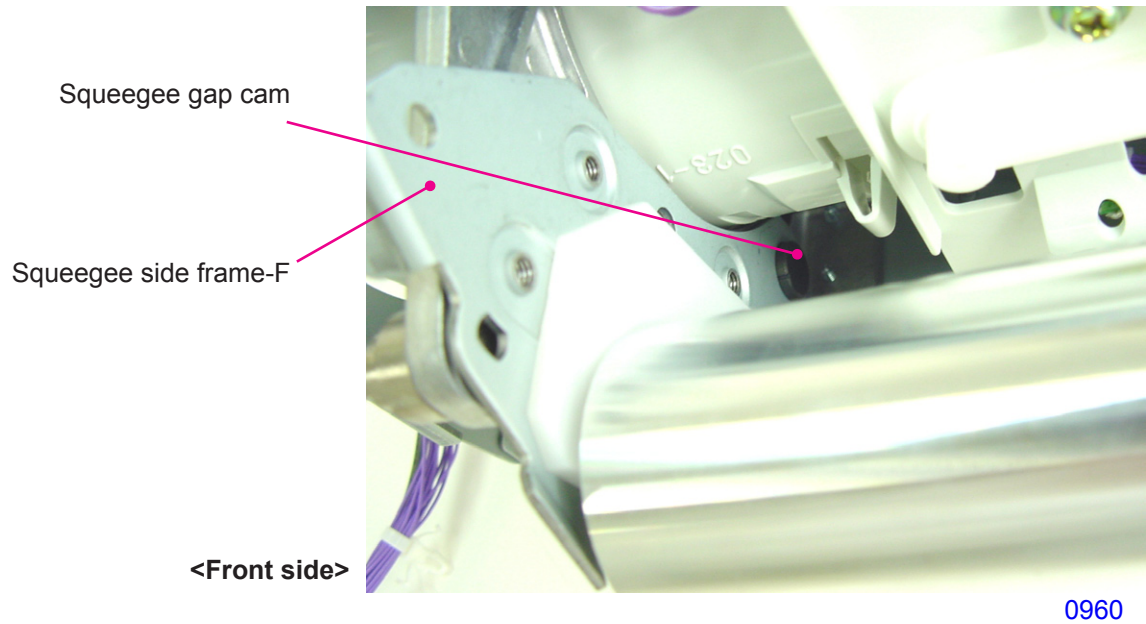
- (8) Remove screws (M4 x 8 screws; 3 pcs) and also the Shoulder screw from the front of the Print drum.



- (9) Remove screws (M4 x 8 screws; 2 pcs) and also the Shoulder screw from the rear of the Print drum.



- (10) Remove the Squeegee unit from the Print drum by unhooking the hook portion on the Squeegee unit from the Squeegee gap cam in the front and rear of the Print drum.

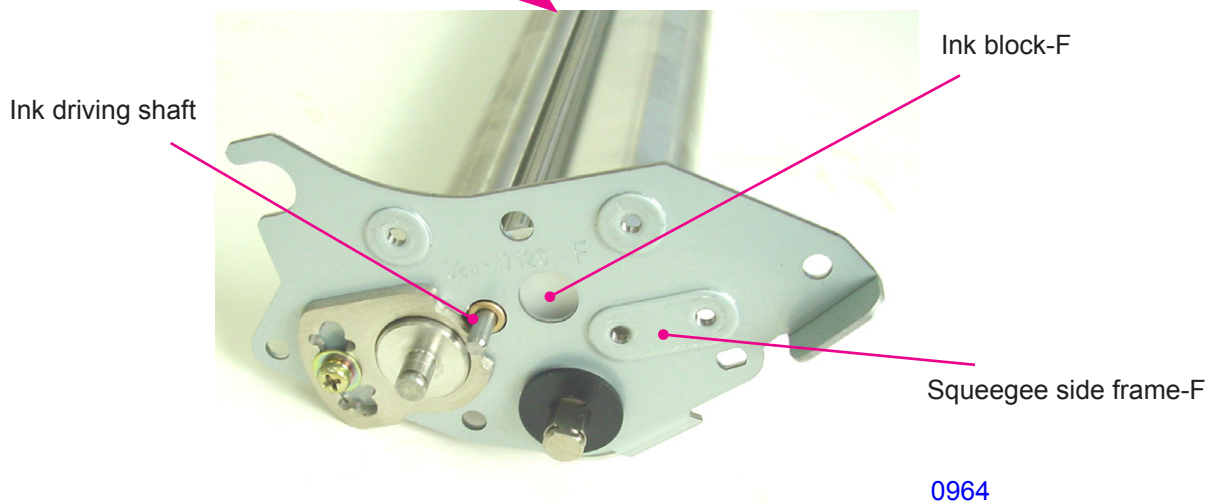
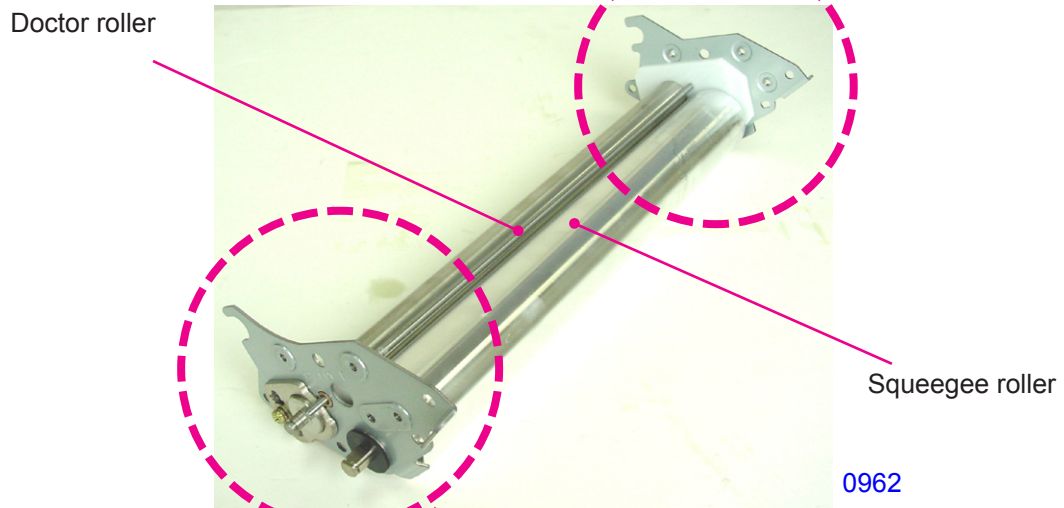
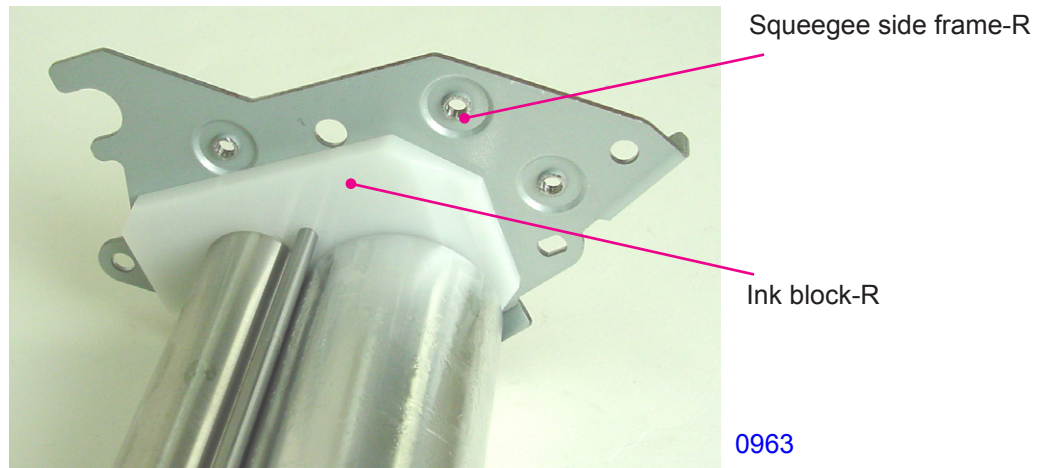


(11) Pull out the Ink driving shaft from the Squeegee unit.

Be careful not to lose the bearing metal and O-ring as these will come off together with the shaft.

(12) Pull the Squeegee side frames F & R off from the ends of the Squeegee unit to free the Squeegee roller.

The Doctor roller, pressed tightly fit into the Ink block F & R, will also come loose.



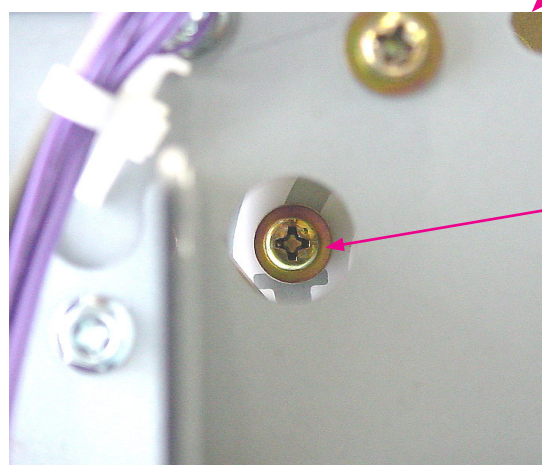
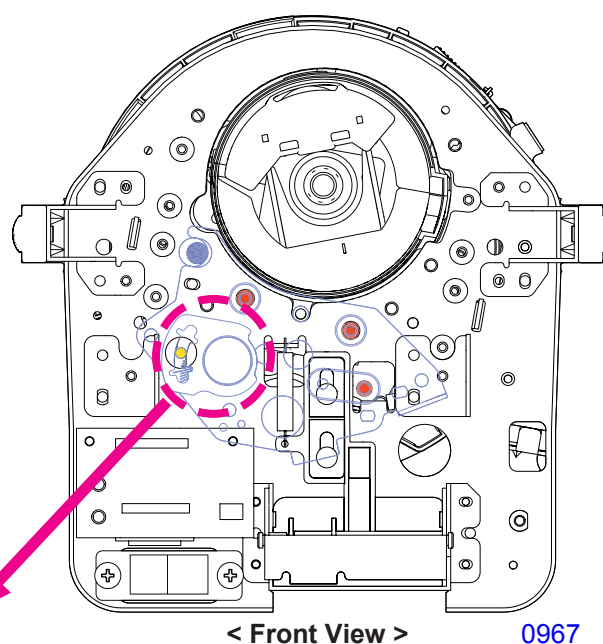
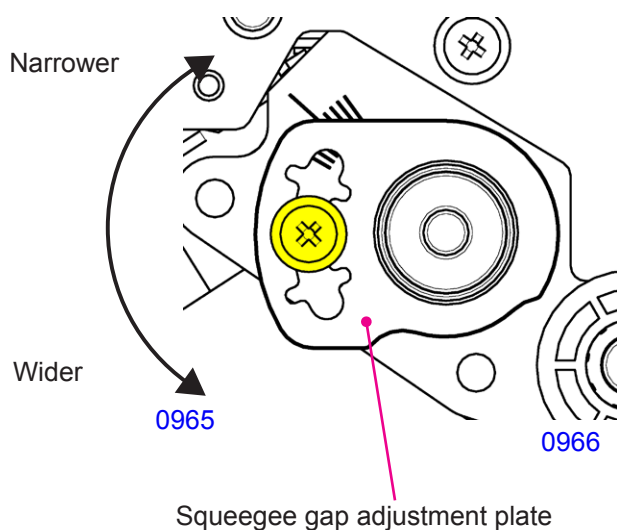
Adjustment

1. Squeegee Gap Adjustment

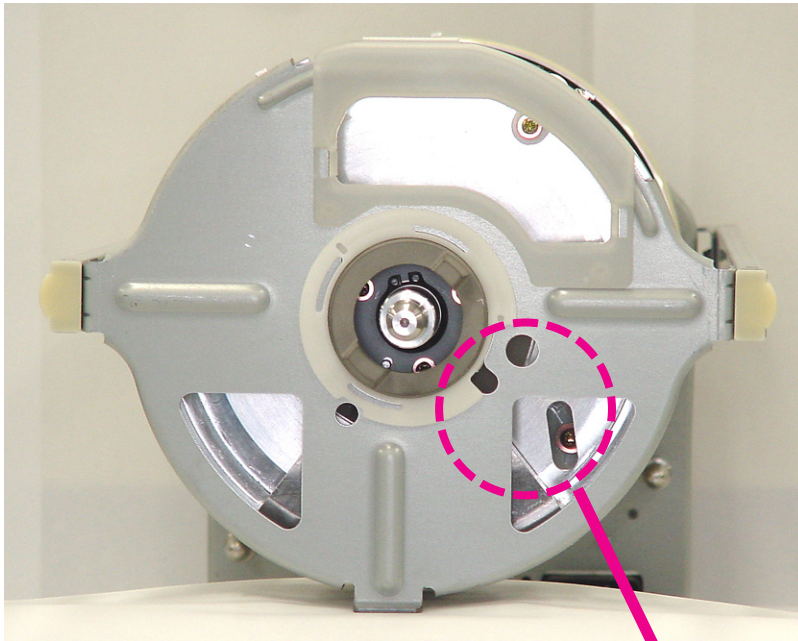
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Checks and adjustment

- (1) Remove the Print drum from the machine and remove following components off the Print drum.
 - Screen assembly
 - Drum body
 - Drum cover
 - Drum grip cover
 - Drum handle lever
- (2) Clean out the ink on the Squeegee unit.
- (3) Use a Feeler gauge to check the gap between the Squeegee roller and Doctor roller.
 - The gap should be 0.06mm plus/minus 0.02mm (0.04 to 0.08mm) for A3/Ledger drums.
 - The gap should be 0.08mm plus/minus 0.02mm (0.06 to 0.10mm) for B4/Legal/A4/Letter drums.
- (4) If the gap is out of the specified range, loosen the Securing screw on the Squeegee gap adjustment plate.
- (5) Insert a flat-head screw driver in the groove on the Squeegee gap adjustment plate and move the plate to adjust the squeegee gap.
- (6) Tighten the Securing screw on the Squeegee gap adjustment plate to end the adjustment.

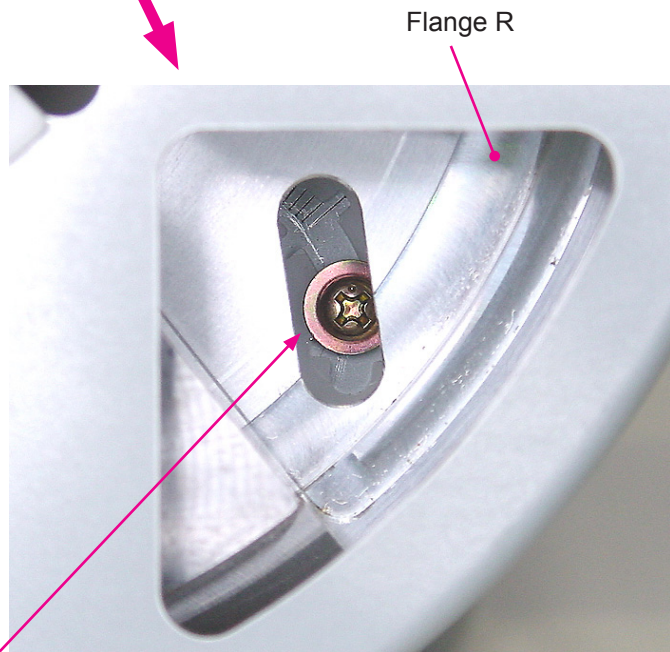


Securing screw on the Squeegee gap adjustment plate



0969

< Rear View >



Flange R

Securing screw on the Squeegee gap adjustment plate

0970

Symptoms:

- (1) If the squeegee gap is too wide, too much ink is transferred onto the inner surface of the Print drum and may result in ink leakage from the Print drum. Other problems, such as the master slipping out from the Clamp plate and horizontal line images may start to rip on the master.
- (2) If the squeegee gap is too narrow, not enough ink is transferred onto the inner surface of the Print drum and may cause the images on the prints to be too light or images missing from the prints due to lack of ink on the drum surface, and more than necessary quantity of prints may have to be printed before the image transfers completely on the printing paper.

2. Squeegee Pressure Balance Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

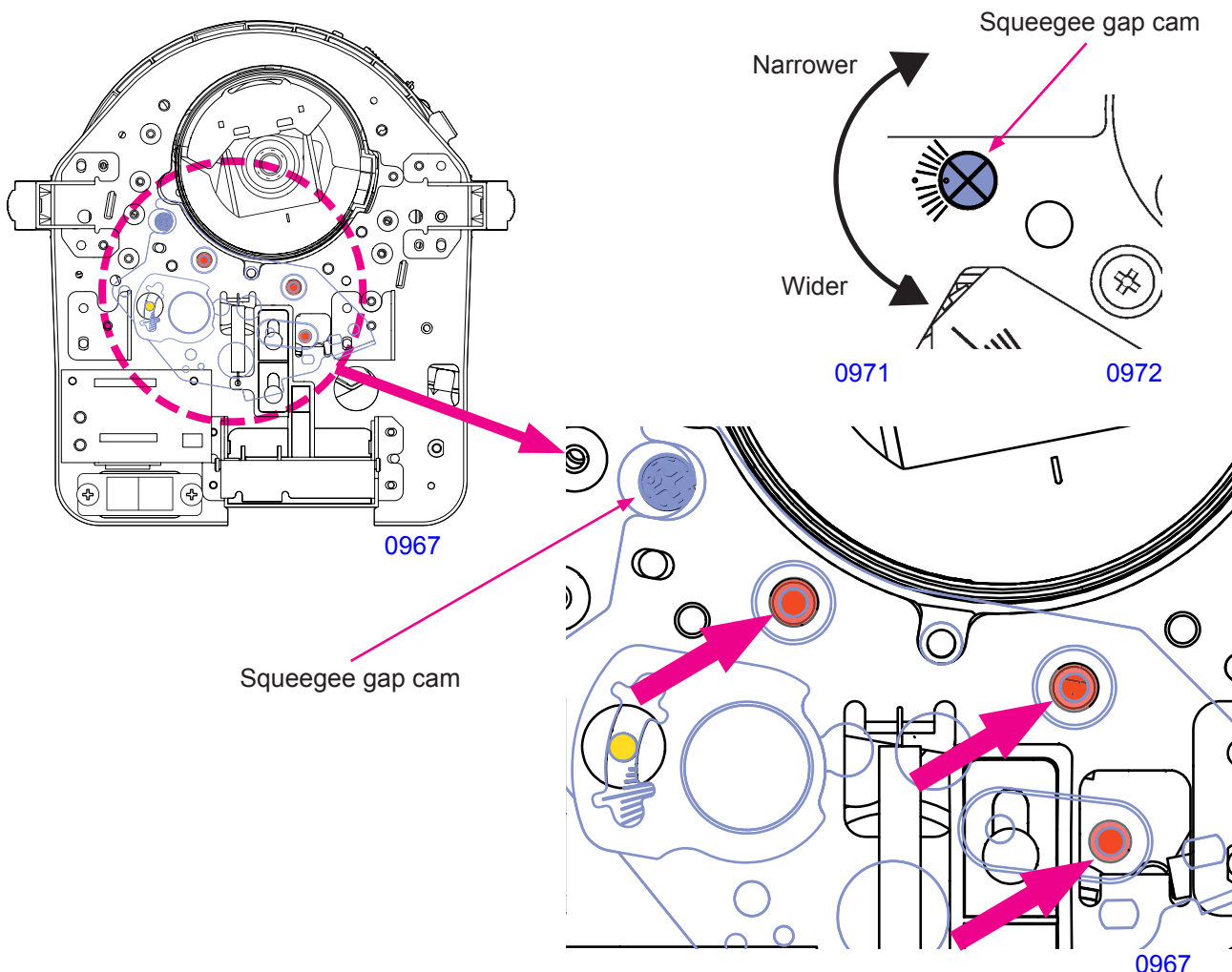
Checks and adjustment

- (1) Create a master using Test chart No.14 and make prints. Check the left and right of the prints to compare the print density and confirm that the density is even between the two sides.
 - (2) Also check the squeegee pressure by pushing the Drum body by fingers against the Pressure roller. The gap between the Drum body and the Squeegee roller by the feel of the fingers should be equal throughout the length of the Print drum. The gap should be within the following range.
 - The gap should be 0.2mm plus/minus 0.05mm (0.15 to 0.25mm) for A3/Ledger drums.
 - The gap should be 0.3mm plus/minus 0.05mm (0.25 to 0.35mm) for B4/Legal/A4/Letter drums.
- If the gap is not within the above mentioned range, make the following adjustment.

Adjustment in the FRONT

- (3) Remove the Print drum from the machine, pull out the Ink bottle and remove following components.
 - Drum cover
 - Drum grip cover
 - Drum handle lever
- (4) Loosen the three securing screws (indicated by three arrow marks on the photograph) on the Squeegee side frame F found through the holes on the Drum front frame assembly.
- (5) Also from the hole on the Drum front frame assembly, using a flat-head screwdriver, rotate the Squeegee gap cam until correct gap is obtained between the Squeegee roller and Drum body.
- (6) Tighten the three securing screws on the Squeegee side frame F to finish the adjustment on the front side of the Print drum.

Refer to the CAUTION on the next page.

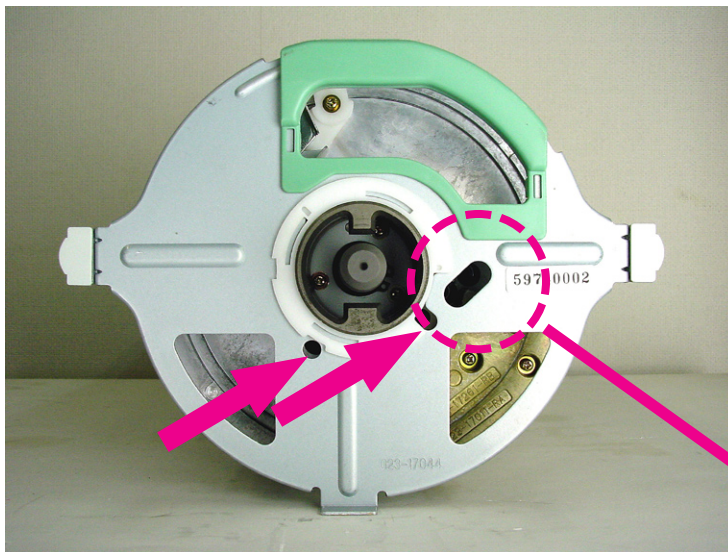


Adjustment in the REAR

- (3) Remove the Print drum from the machine.
- (4) Looking at the rear of the Print drum, find two securing screws of the Squeegee side frame R (indicated by the arrow marks on the photograph) and loosen the two screws.
- (5) Insert a flat-head screwdriver through the opening on the Drum rear frame assembly, rotate the Squeegee gap cam until correct gap is obtained between the Squeegee roller and Drum body.
- (6) Tighten the two securing screws on the Squeegee side frame R to finish the adjustment on the rear side of the Print drum.

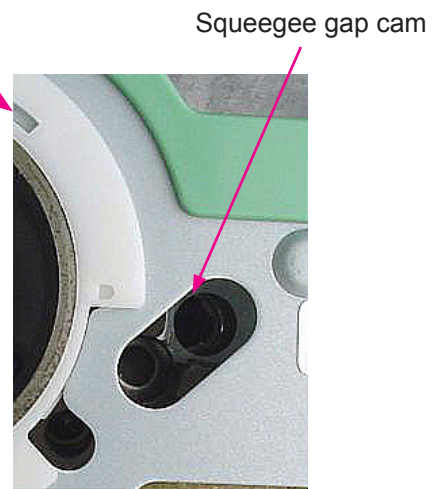
< CAUTION -- For both FRONT & REAR >

Make sure to loosen the two securing screws before rotating the Squeegee gap cam, if not, the Squeegee gap cam will be damaged . >



< Rear View >

0973



0974

Symptoms

- (1) Difference in the squeegee pressure between the front and rear of the Print drum will result in uneven density between the right and left of the prints.
- (2) If the squeegee pressure is too strong (the gap too small), too much ink is transferred onto the inner surface of the Print drum and may result in ink leakage from the Print drum. Other problems, such as the master slipping out from the Clamp plate and horizontal line images may start to rip on the master.
- (3) If the squeegee pressure is too weak (the gap too large), not enough ink is transferred onto the inner surface of the Print drum and may cause the images on the prints to be too light or images missing from the prints due to lack of ink on the drum surface, and more than necessary quantity of prints may have to be printed before the image transfers completely on the paper.

MEMO

CHAPTER 10: CLAMP UNIT

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2. Clamp Plate Opening Mechanism	3
3. Drum Position-A Compensation.....	4
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Disassembly	6
1. Removing the Clamp Unit.....	6
2. Removing the Clamp Motor	7
3. Removing the Clamp Sensors A & B	8

Mechanism

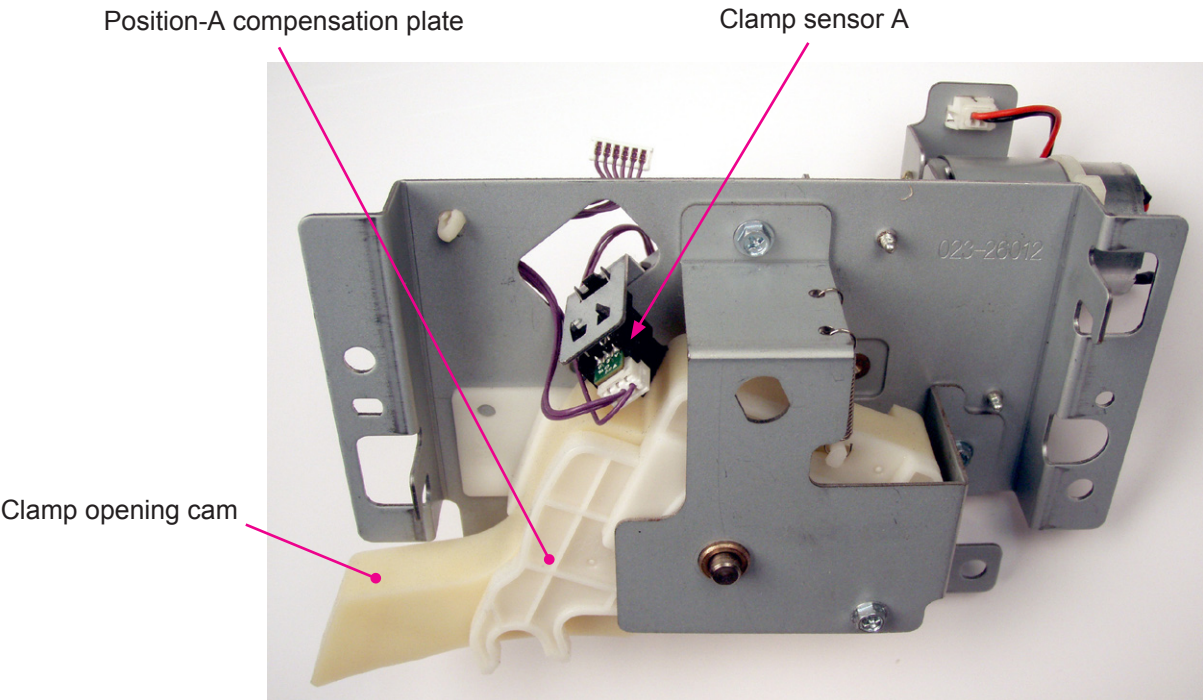
1. Clamp Unit Home Positioning Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

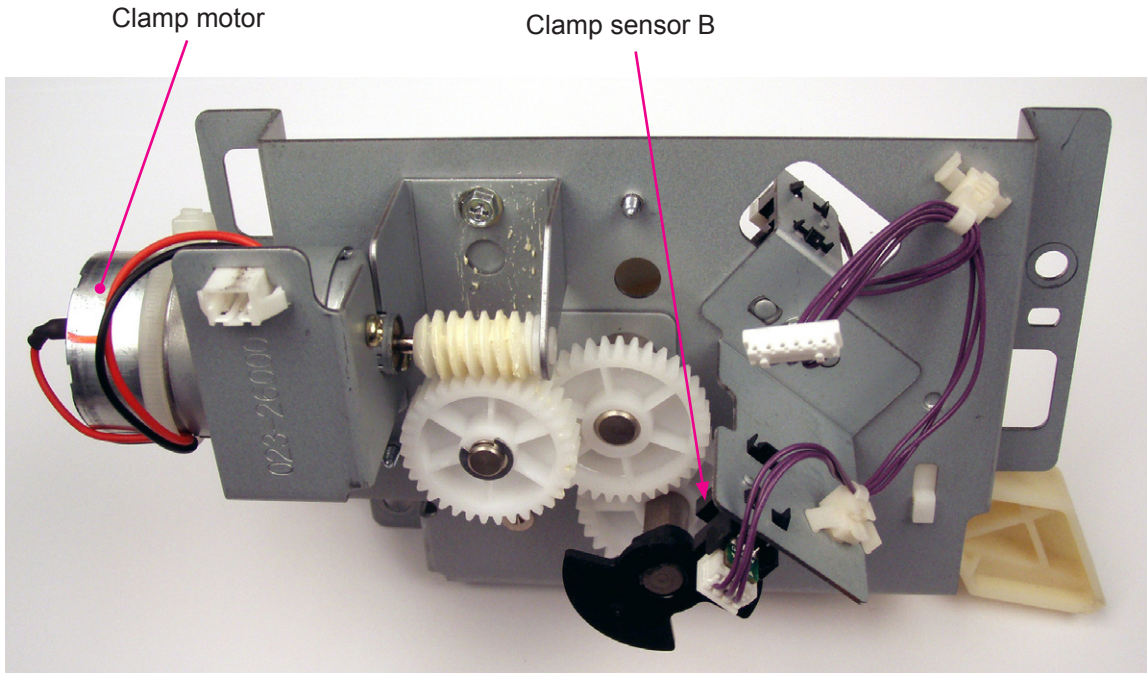
The Clamp unit is checked if the unit is at home position or not each time the machine power is turned ON or the Reset key is pressed.

The unit is judged to be at home position when the Clamp sensor A is detecting the Clamp opening cam (the Clamp opening cam is at the maximum up position) and the Clamp sensor B is not detecting the actuator disc.

If the unit is not at the home position when the power is turned ON or the Reset key is pressed, the Clamp motor is activated to rotate the Clamp cam is rotated to bring the Position-A compensation plate and Clamp opening cam to the home position.



1001



1002

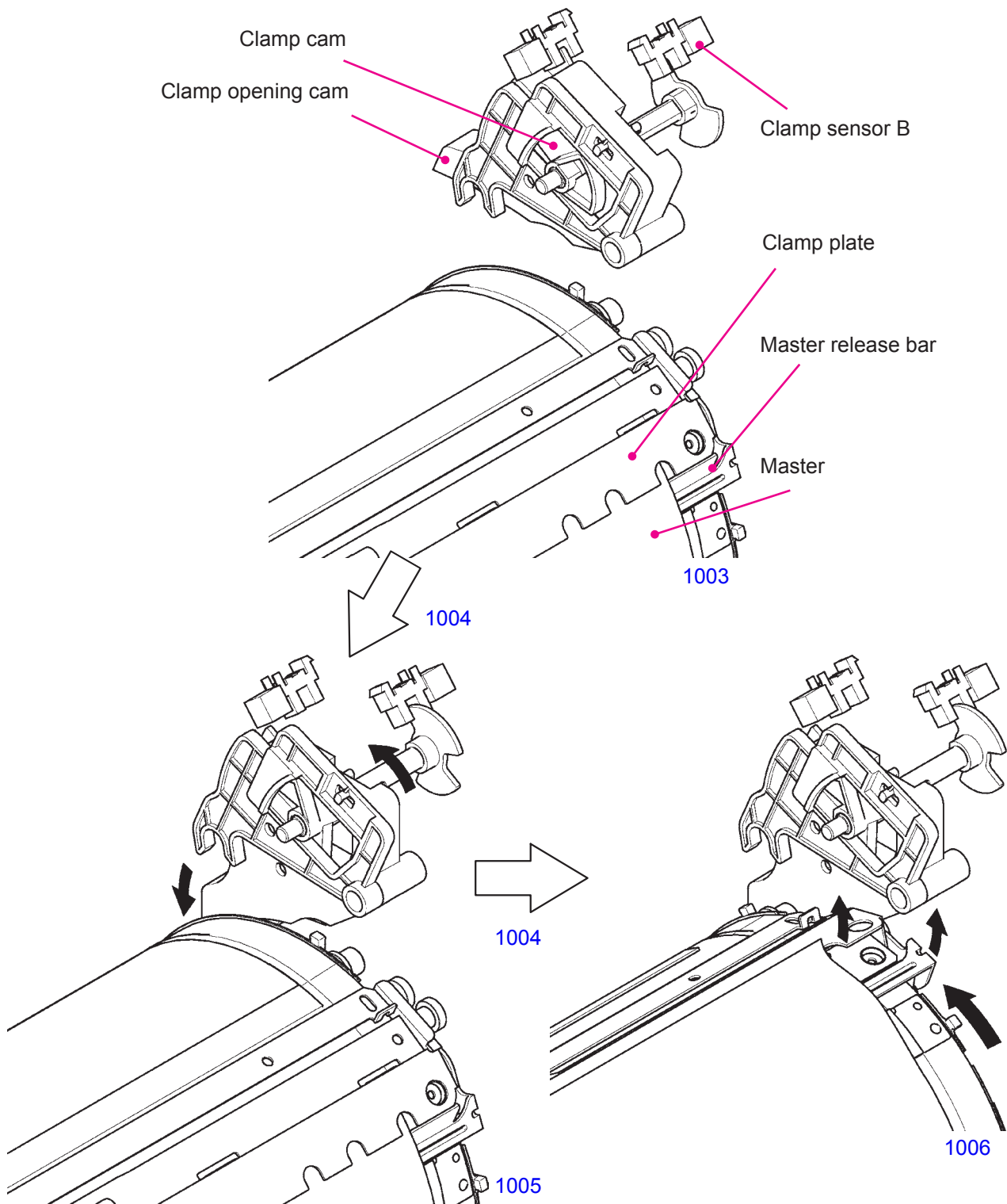
2. Clamp Plate Opening Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

When the START key is pressed for the master making or confidential master making, the Print drum starts to rotate from its Position-B. After the presence of the master on the Print drum is checked and as the Print drum returns to the Position-B, the Print drum stops once and starts the Clamp plate opening action.

The Clamp motor activates and rotates the Clamp cam until the light path of the Clamp sensor B is blocked by the disc. This action brings the Clamp opening cam down.

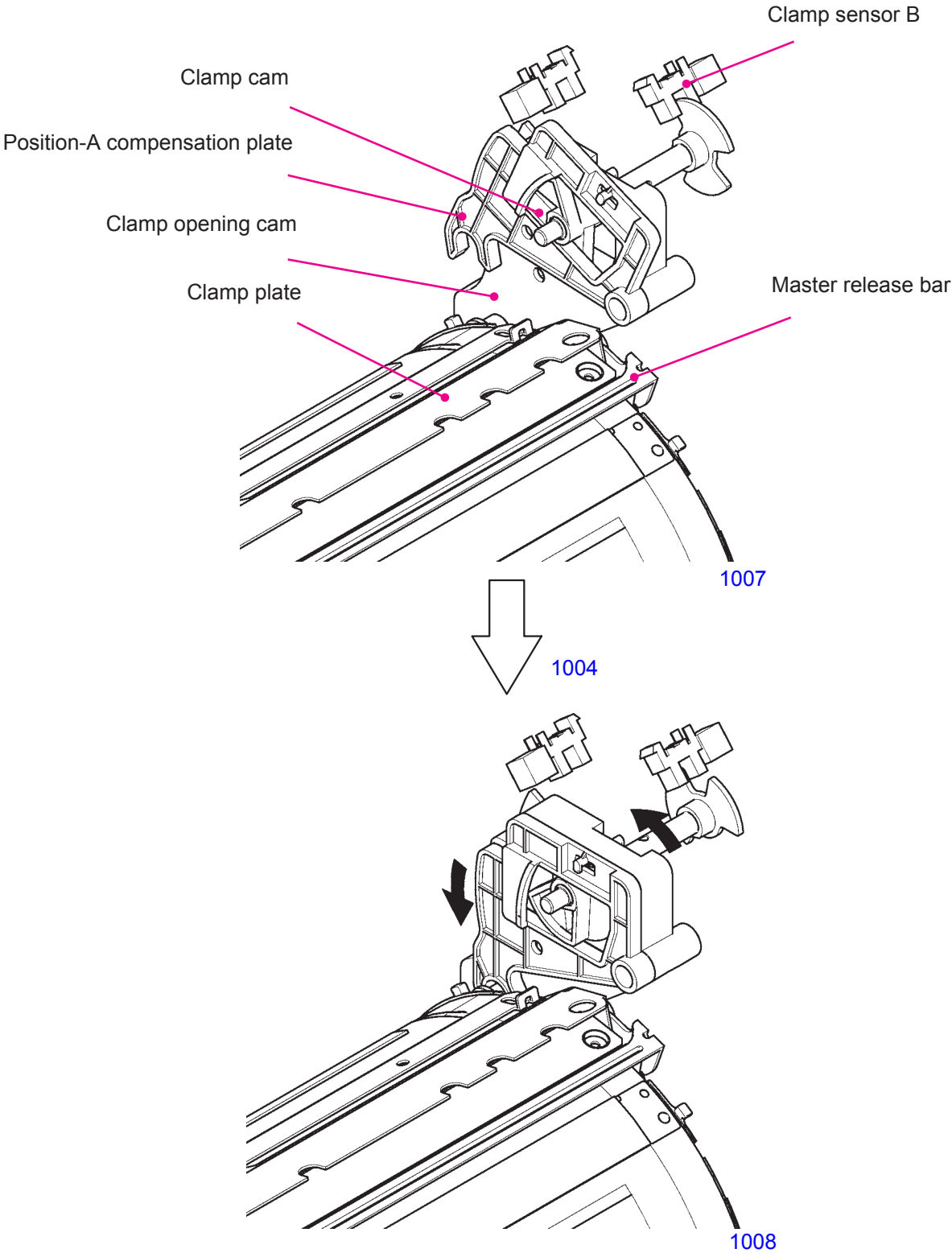
The Print drum then rotates to start the master removal action. The Clamp opening cam, at its lowered position, opens the Clamp plate first, and then lifts the Master release bar to eject the leading edge of the master out from the Clamp plate.



3. Drum Position-A Compensation

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

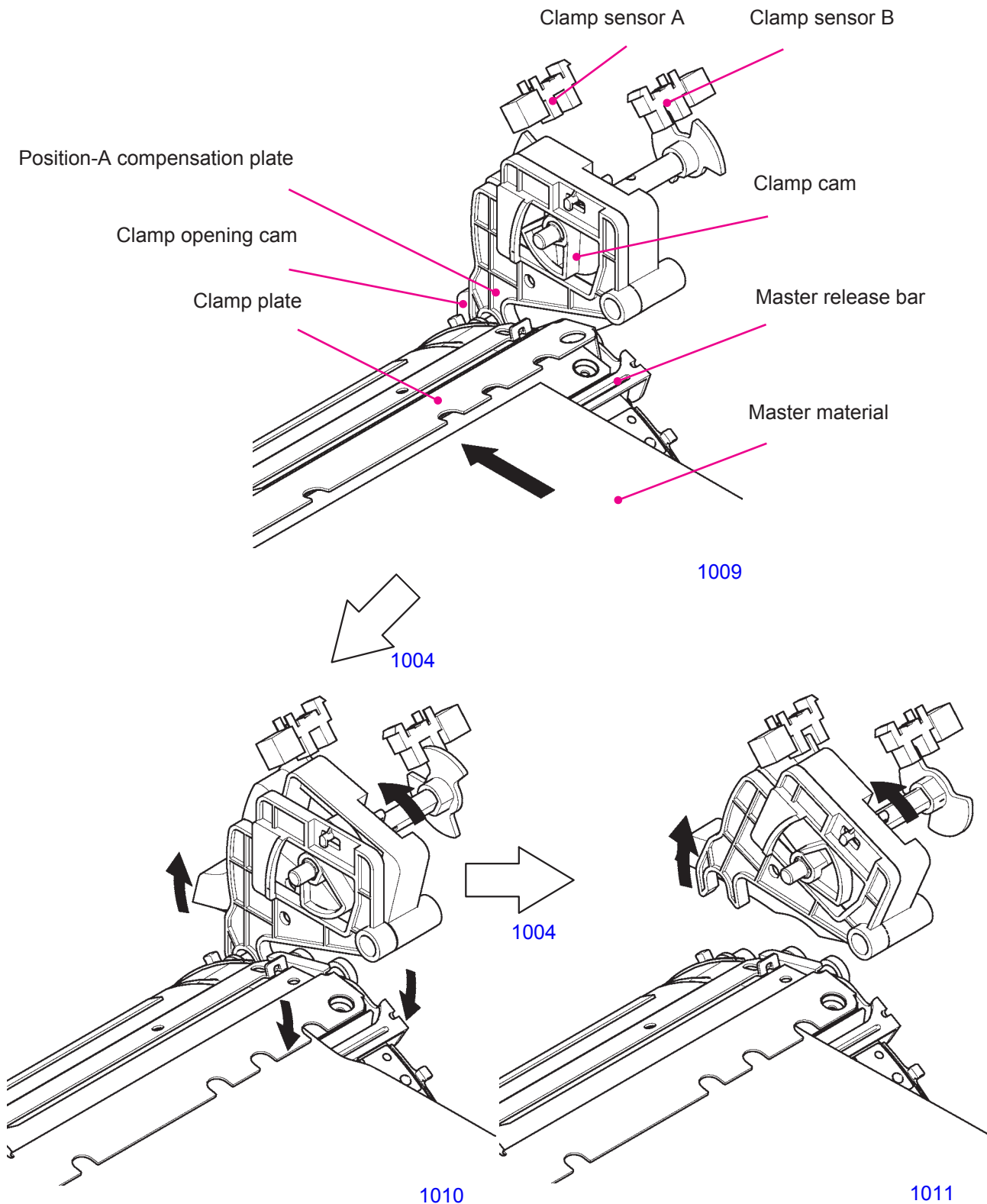
The Print drum rotates to remove the master and as it comes back to Position-A, the Clamp opening cam at its lowered position opens the Clamp plate and lifts the Master release bar. As the Print drum stops at Position-A, the Clamp motor turns ON to rotate the Clamp cam until the light path of the Clamp sensor B becomes unblocked by the disc. This action brings the Position-A compensation plate down to catch the plastic compensator shaft on the Print drum to hold the Print drum at Position-A.



4. Clamp Plate Master Clamp Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Once the Load pulse motor on the master making area feeds a set length of the master material towards the Print drum, the Clamp motor activates to rotate the Clamp cam until the light path of the Clamp sensor A is blocked by the disc and the light path of the Clamp sensor B becomes unblocked. This action brings the Clamp opening cam up and closes both the Master release bar and the Clamp plate down to clamp the master material under the Clamp plate. At this stage the Clamp opening cam and Position-A compensation plate are both brought back to their home position.

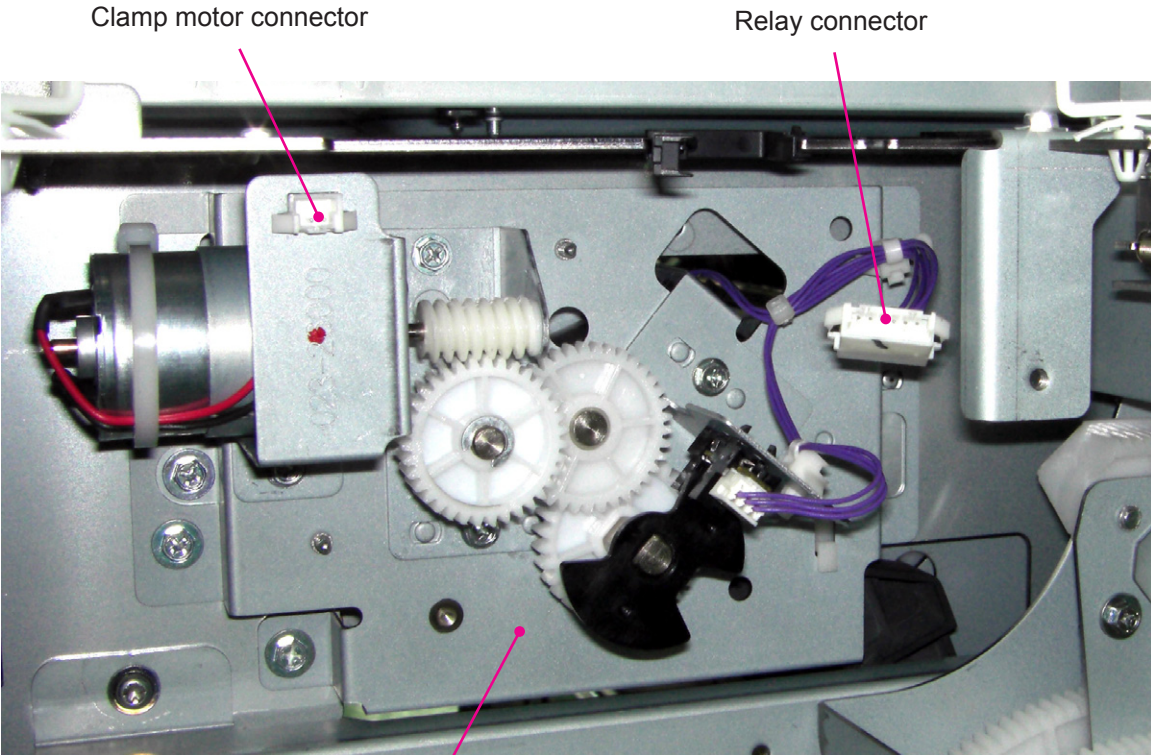


Disassembly

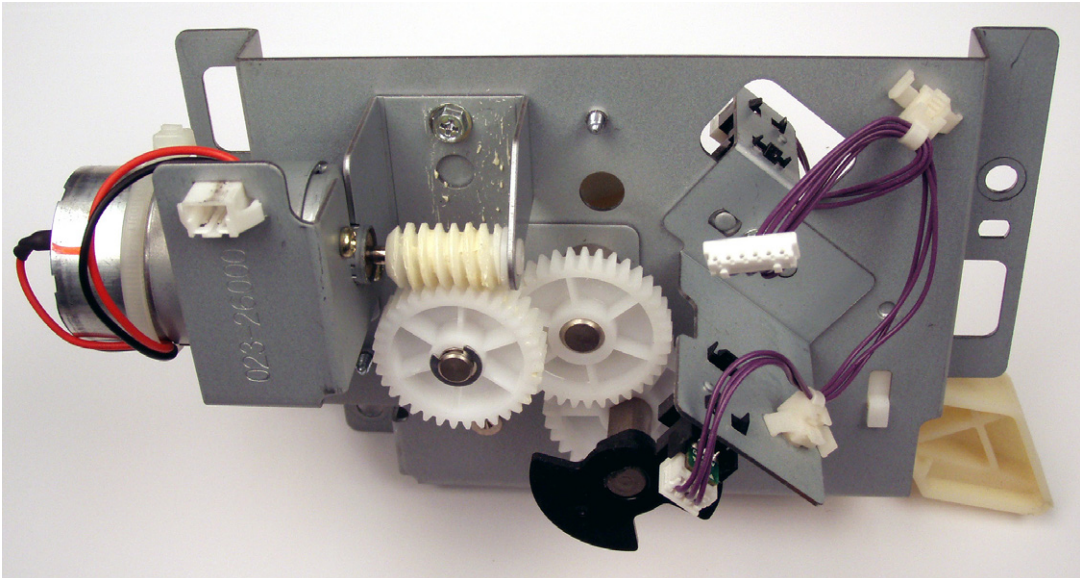
1. Removing the Clamp Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power, remove the Rear cover, and swing open the PCB bracket of the Mechanical control PCB.
- (2) Disconnect the Clamp motor connector and Relay connector. Remove screws (M4 x 8 screws; 3 pcs) and remove the Clamp unit from the machine.



1012

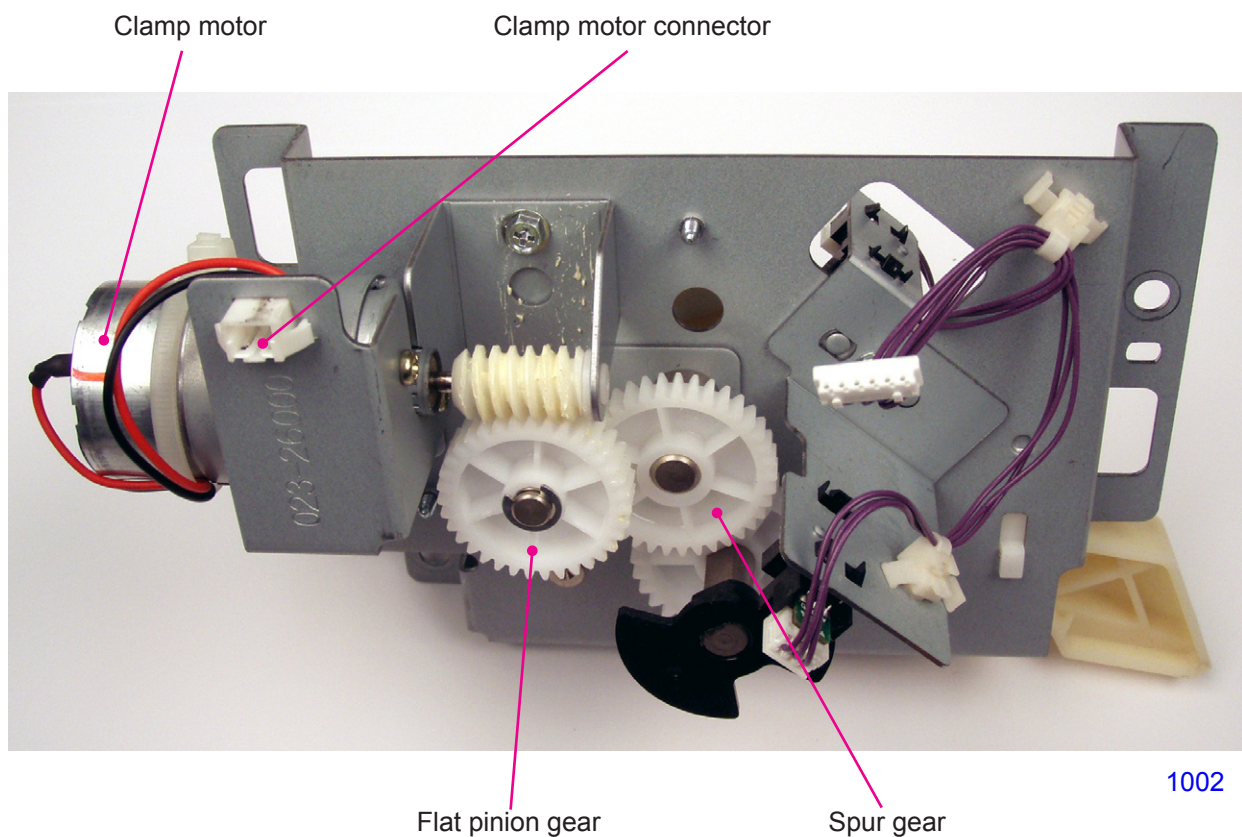


1002

2. Removing the Clamp Motor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power, remove the Rear cover, and swing open the PCB bracket of the Mechanical control PCB.
- (2) Remove the Clamp unit.
- (3) Remove the Flat pinion gear and Spur gear by removing an E-ring on the Flat pinion gear.
- (4) Remove the Clamp motor by unplugging the Clamp motor connector and removing the screws (M3 x 5 screws; 2 pcs).



1002

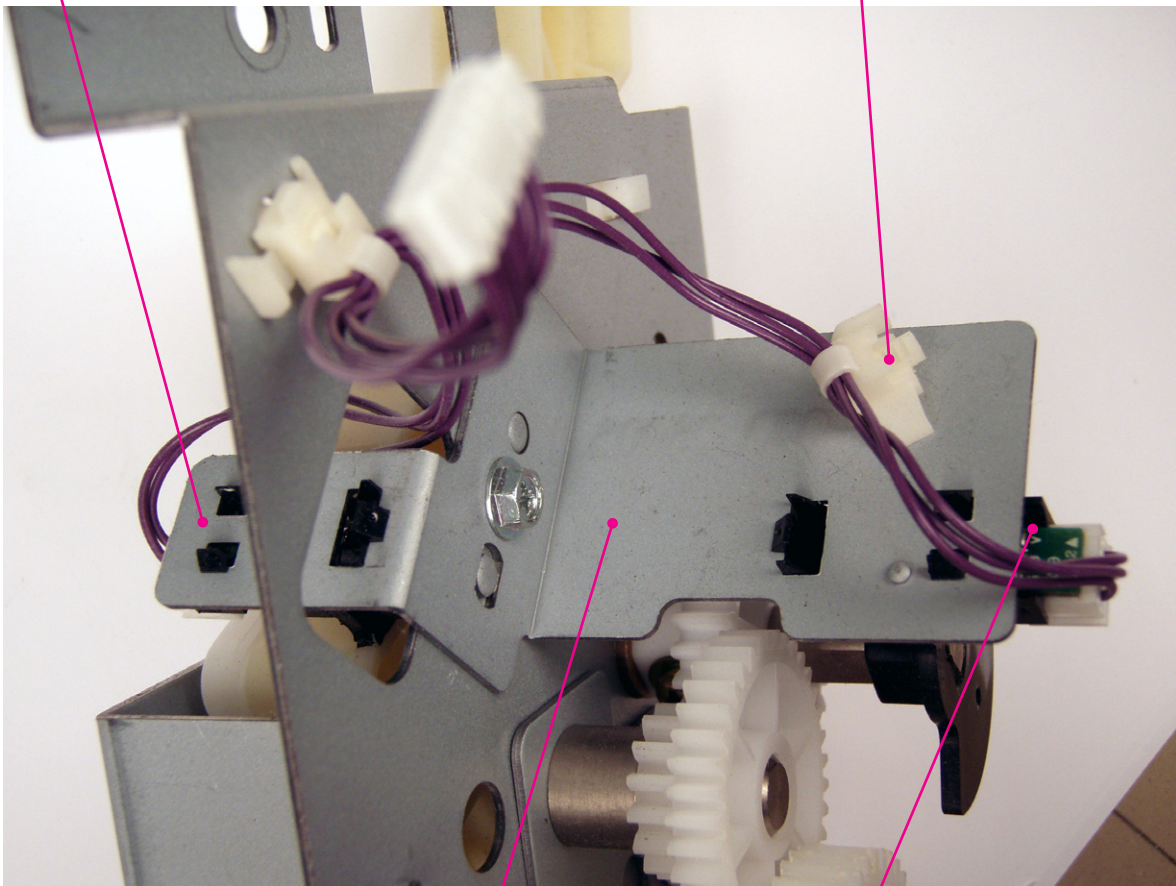
3. Removing the Clamp Sensors A & B

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power, remove the Rear cover, and swing open the PCB bracket of the Mechanical control PCB.
- (2) Remove the Clamp unit.
- (3) Unplug the Reuse band (1 pc) from the Clamp unit.
- (4) Remove a screw (M3 x 8 screw; 1 pc) and remove the Clamp sensor plate with the two sensors attached.
- (5) Unplug the connectors and unhook and remove each sensor from the Clamp sensor plate.

Clamp sensor A

Reuse band



1013

Clamp sensor plate

Clamp sensor B

CHAPTER 11: MASTER REMOVAL SECTION

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Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

1. Master Removal Mechanism

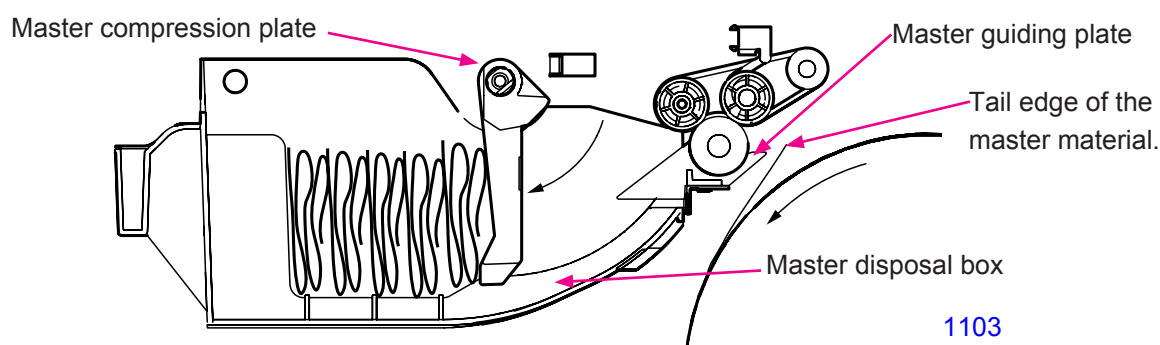
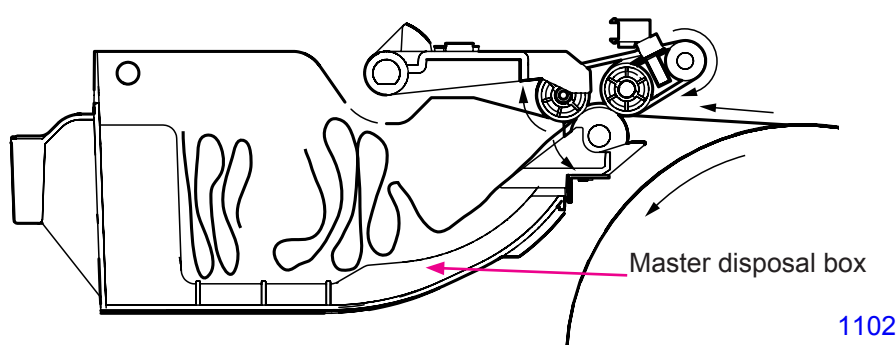
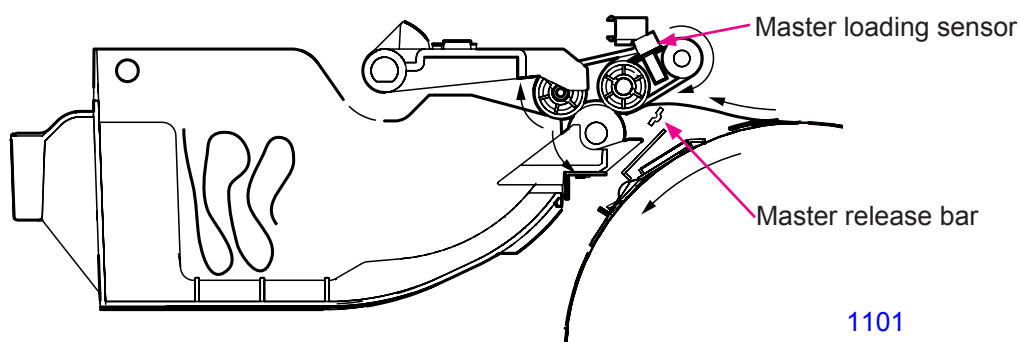
Master on the Print drum is removed from the Print drum and disposed in following sequence.

- (1) At the start of master removal, the Master loading sensor checks for the presence of master on the Print drum as the Print drum makes one rotation.
- (2) After the Print drum returns to Position-B, the Clamp unit operates to bring the Clamp opening cam down. The Print drum rotates to position-A and both the Clamp plate and the Master release bar opens up to release the master out from the Clamp plate of the Print drum.
- (3) The Master removal roller rotates and catches the leading edge of the master and pulls the master away from the Print drum as the Print drum continues to rotate.
- (4) As the whole length of the removed master enters into the Master disposal box, the Master compressing plate pushes the removed master deep into the Master disposal box.

* Above step-(1) is made only when the machine does not have the memory of the master on the Print drum.

* Even with no master is found on the drum, the master removal action takes place, except that the Master removal sensor detection is not functional.

* Both the master compressing action and master loading action takes place at the same time. The Master guiding plate prevents the tail edge of the master being loaded on the Print drum from touching the Master removal rollers and getting the ink transferred.

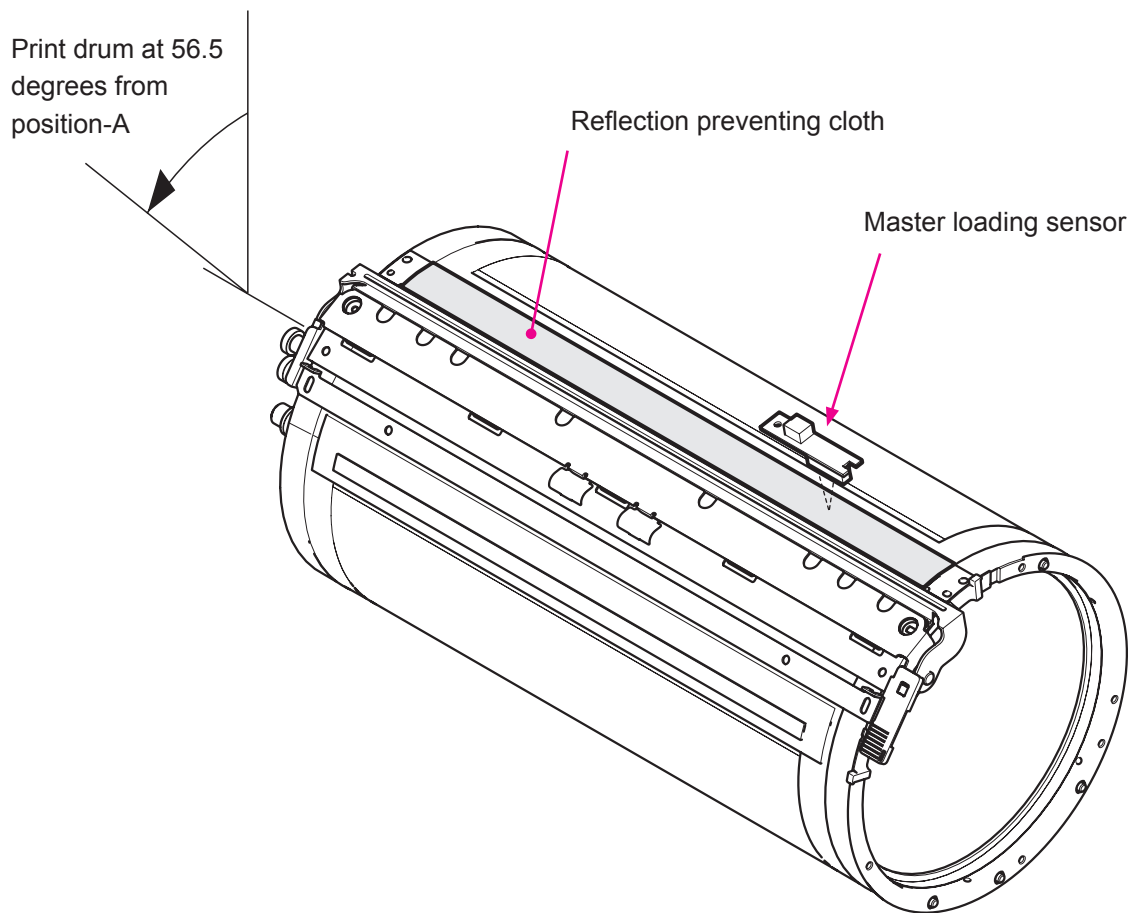


2. Master on the Print Drum Check Mechanism (Before Master Removal)

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

When creating a confidential or normal master, the Print drum makes one rotation from its Position-B. During this rotation, the Master loading sensor checks for the presence of the master on the Print drum at 56.5 degrees turn from position-A. If a master is found on the Drum, the machine makes the master removal action with the Master removal sensor active. If no master is found, the master removal action is made with the Master removal sensor deactivated.

If the machine already knows that there is a master on the Print drum before going into master making operation, the master on the Print drum check action is skipped, and the Print drum starting the rotation from the Position-B goes immediately into master removal action.



1104

3. Removed Master Vertical Transport Mechanism

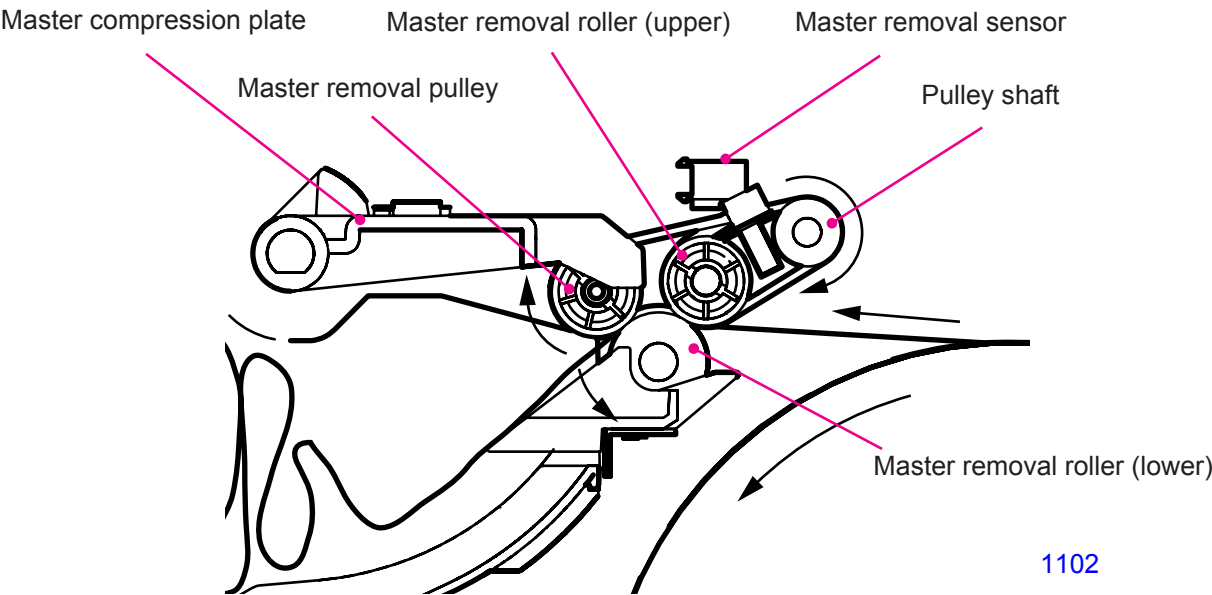
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

At the start of the Clamp plate opening action to remove the master from the Drum, the Master removal motor activates to rotate the Master removal rollers to catch the leading edge of the removed master from the Drum. With the continued rotation of the Print drum, the removed master is transferred into the Master disposal box by the Master removal rollers.

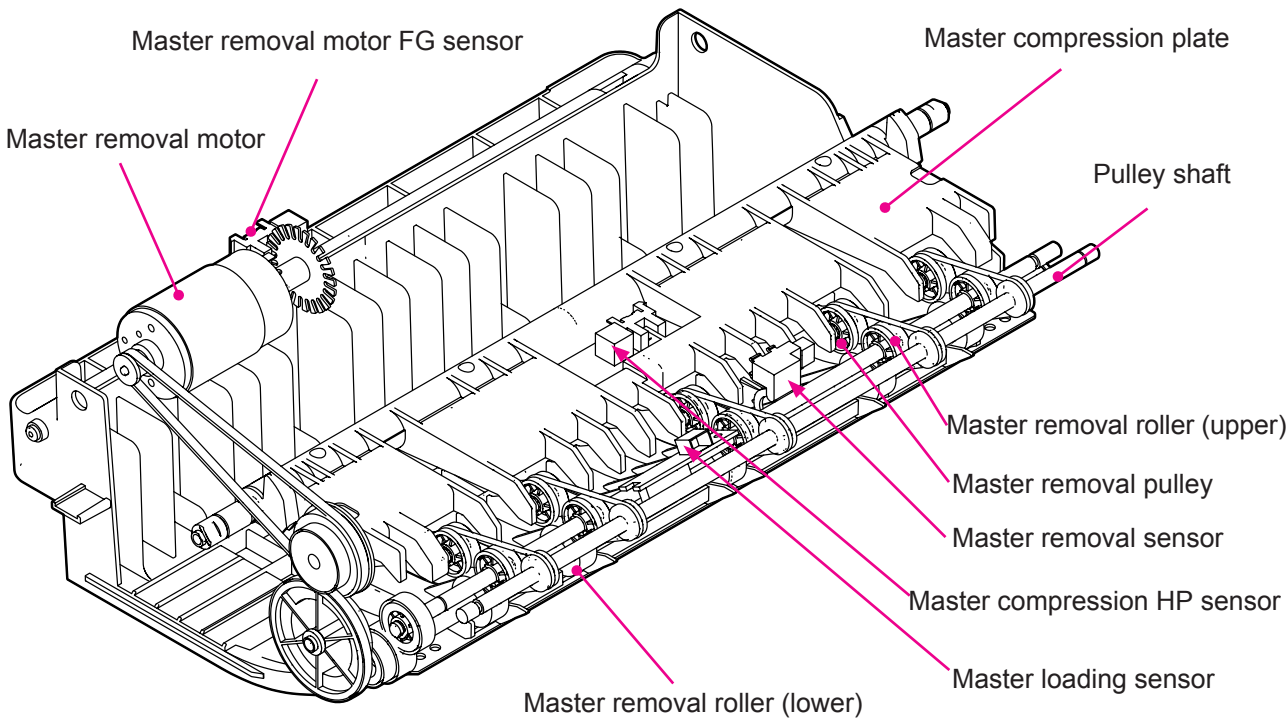
Once the master removal action has started and the Print drum rotates to position-A, the Main motor stops, and also the Master removal motor deactivates within seconds later (It varies with paper size).

Whether the master has arrived into the master disposal area or not is checked by the Master removal sensor at drum angles 120 degrees and 180 degrees during the master removal action.

The Master removal roller speed is checked by the Master removal motor FG sensor, and the speed can be adjusted by test mode No. 578.



1102



1105

4. Disposed Master Compression Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

1) Initializing movement

The initialization action of the Master compression plate is made in two occasions.

- If the Master compression plate HP sensor is found opened when the machine power is turned ON or when the Reset key is pressed, the Master compression motor rotates in the return direction until the light path of the Master compression plate HP sensor becomes blocked. If the light path of the Master compression plate HP sensor is blocked from the start, the initializing operation of the Master compression plate is not performed.
- If the light path of the Master compression plate HP sensor is opened at the start of the master compressing operation, the Master compression motor rotates in the return direction until the light path is blocked. If the light path of the sensor is blocked from the start, the initializing operation of the Master compression plate is not performed.

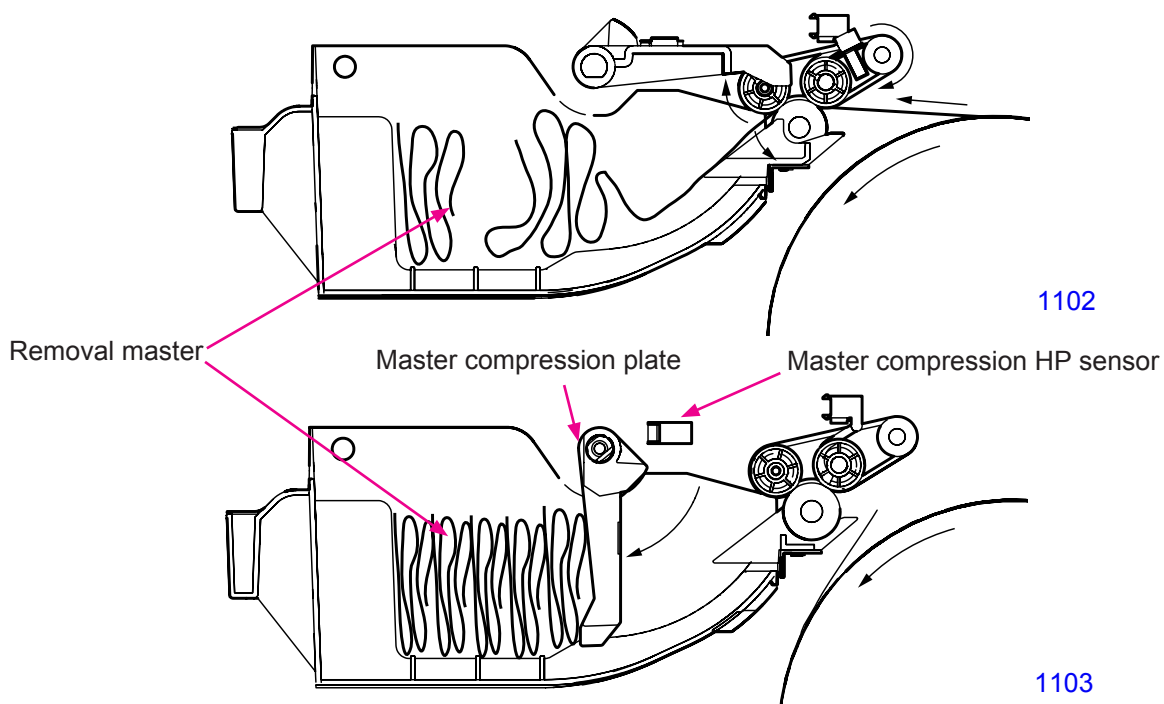
2) Master compressing movement

- With only a small amount of removed master in the Master disposal box, the Master compression plate makes full compressing action. The plate stops at the maximum down position for 6 seconds and then returns to the fully raised home position. The maximum down position is 147 pulse count by the Compression FG sensor (adjustable by test mode No.573).

The Compression FG sensor, starts counting the pulses when the Master compression plate clears from the Master compression plate HP sensor. The plate then returns to the home position.

- As the removed master in the Master disposal box increases, the resistance to the Master compression plate increases, causing the plate to slow down during the compression movement. If the time intervals between each pulse exceeds 40 ms (adjustable by test mode No.575), the compression plate ends the compression action and stops for 6 seconds. The Compression FG sensor, starts counting the pulses when the Master compression plate clears from the Master compression plate HP sensor. The plate then returns to the home position.

- As the amount of the removed master increases, the resistance against the Compression plate increases during the compressing movement. If the time interval exceeds more than 40 ms (adjustable by test mode No.575) between each FG count within the Compression plate arrives at 120 pulse (A3/ Ledger) or 146 pulse (A4/Letter, B4/Legal) count from the home position (adjustable by test mode No.576), the Master disposal box is detected to be full. The LED lamp on the operation panel lights to give the FULL message. In the default setting, the disposed master is counted by software counter and the FULL message LED lamp lights when the software counter counts 100 disposed masters.



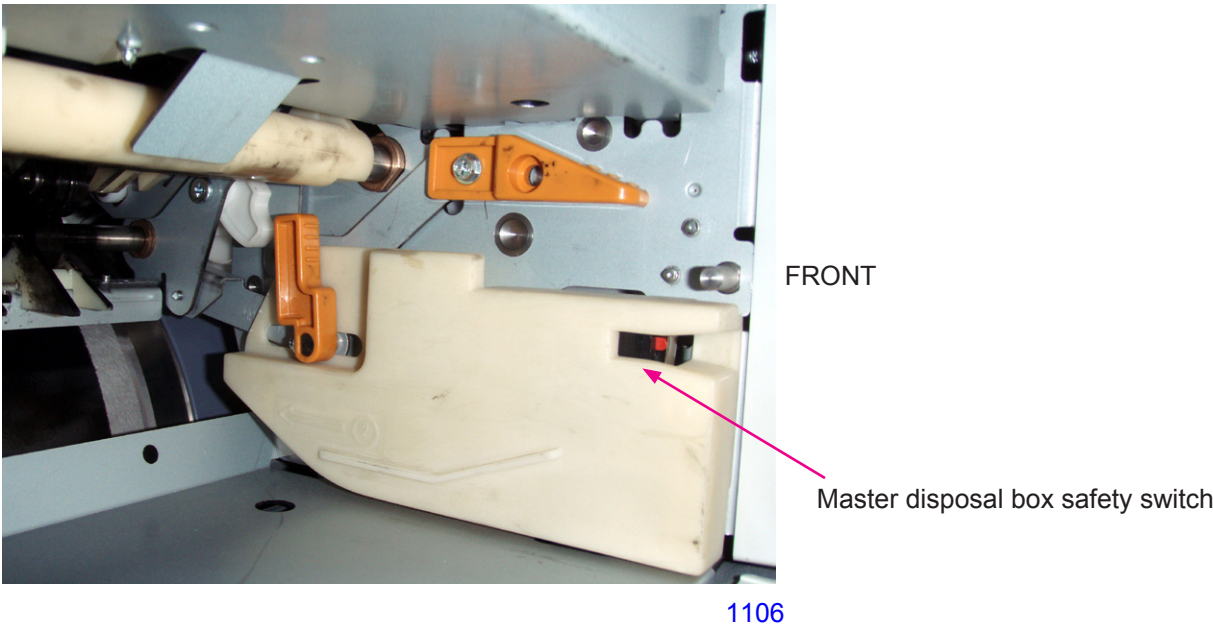
5. Master Disposal Box Safety SW

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

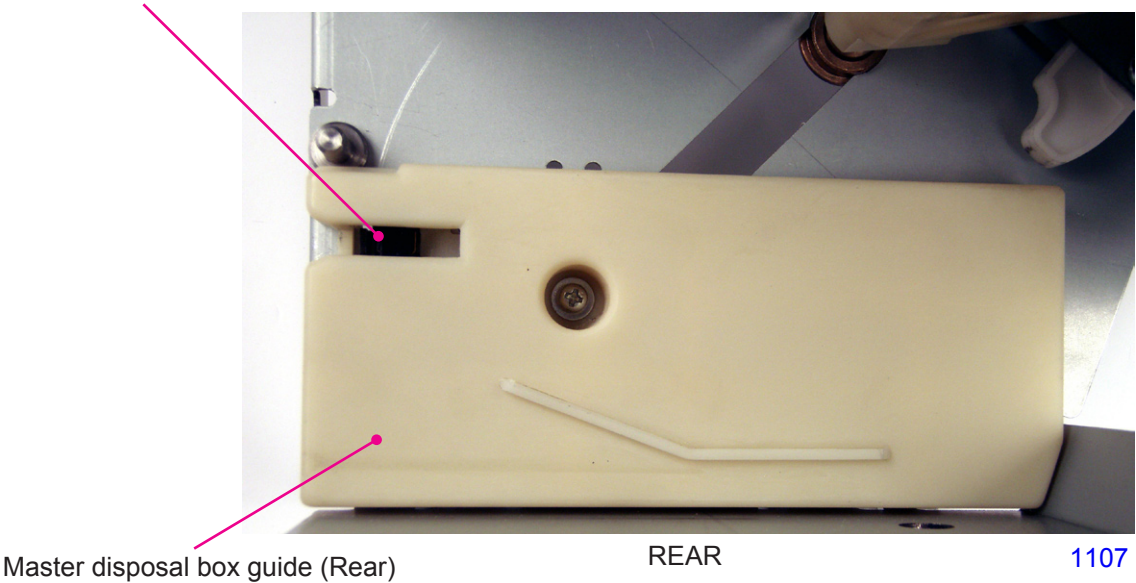
The Master disposal box safety switch checks whether the Master disposal box is correctly set in the machine.

When the Master disposal box is not set in the machine, the Master disposal safety switch prevents the Main motor, Clamp motor, Master compression motor, Master removal motor and Separation fan from turning ON.

In the case the Master disposal box FULL indication LED lights up on the Operation panel, the Master disposal box needs to be removed from the machine to switch OFF the Master disposal box safety switch for 5 seconds to reset and clear the LED indication.



Master disposal box set sensor



6. Protect function

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

The protect function is to prevent prints to be made from previously made master which may contain classified information, especially when the operator leaves the machine.

ON/OFF selection of the protect function

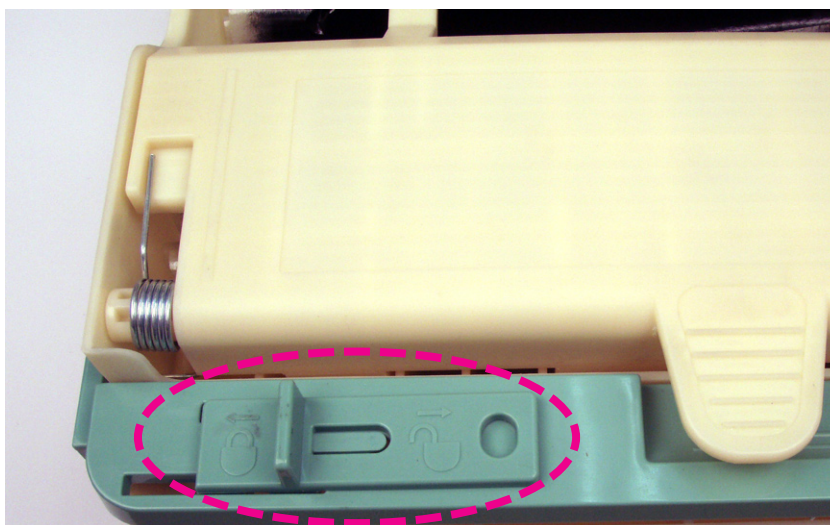
The activation and deactivation of the protect function is done by the user-mode Admin. display.

Automatic confidential master making

When the Protect Function is selected to ON, after an elapse of certain period of time from the finish of one printing job, the machine display asks whether to do confidential master making. When selected [YES], the machine goes into confidential master making.

Master disposal box lock mechanism

- When the protect function is selected to ON, after each master disposal movement finishes, the Master compression plate in the Master disposal unit comes down a little from the horizontal home position. The Master compression plate, when down from the home position, locks the Master disposal box in place. The Master disposal box cannot be pulled out, so that the removed master from the Print drum cannot be taken out and looked at.
- With the protect function selected to ON, the only time the Master disposal box can be removed out from the machine is when an error, in which the Master disposal box must be removed out of the machine to make the correction, appears. These error conditions are Master Disposal Box Full, Master Disposal Jam Error, etc. In these error conditions, the master compression plate goes back to the horizontal home position and allows the master disposal box to be removed.
- Even with the protect function OFF, the Master disposal box can be locked in position by using a padlock on the slide lever on the Master disposal box handle [refer to the photograph below].



1108

Disassembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

1. Removing the Master Disposal Box

When the Master disposal box is locked in the machine, either by a padlock or by the user mode protect function, the Master disposal box cannot be removed unless the following steps are taken.

In either case, a permission from the customer is needed in order to remove the Master disposal box when the box is purposely locked in position.

When a padlock is used

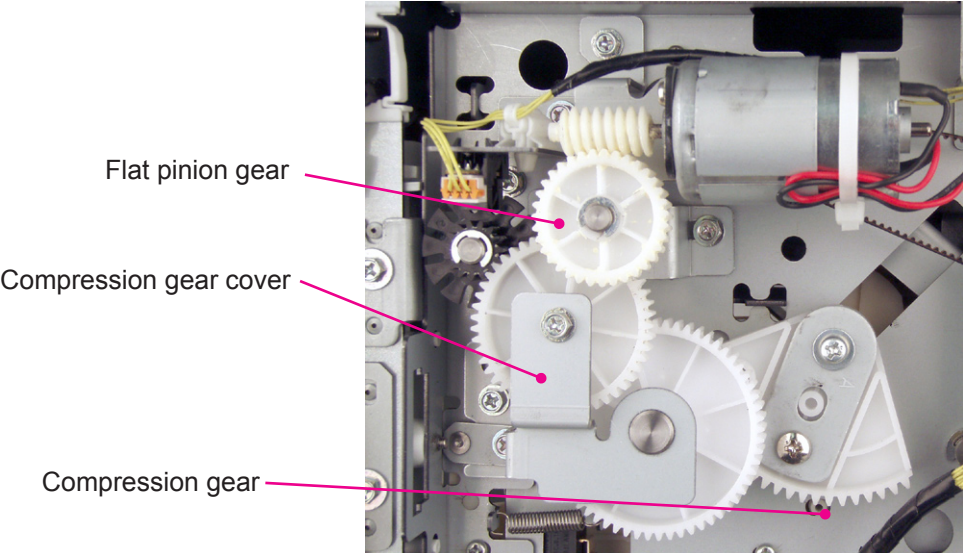
If a Padlock is used, a key for that Padlock is needed to unlock the key to remove the Master disposal box out of the machine. If the key is lost, the only way to get the Master disposal box is to break the box at the handle where the Padlock is hooked on.

When the Master compression plate is locking the box. [Protect Function]

If the test mode can be activated, use test mode No. 0490 to raise the Master compression plate up to the home position, and then remove the Master disposal box out.

If the machine is non-operational and the test mode cannot be used, then take the following steps to get the Master disposal box out.

- (1) Turn OFF the machine power and remove the Front cover.
- (2) Remove the Flat pinion gear by removing an E-ring (4mm diameter E-ring; 1 pc).
- (4) Rotate the Compression gear all the way in the counterclockwise direction to raise the Master compression plate, and remove the Master disposal box out of the machine.



1109



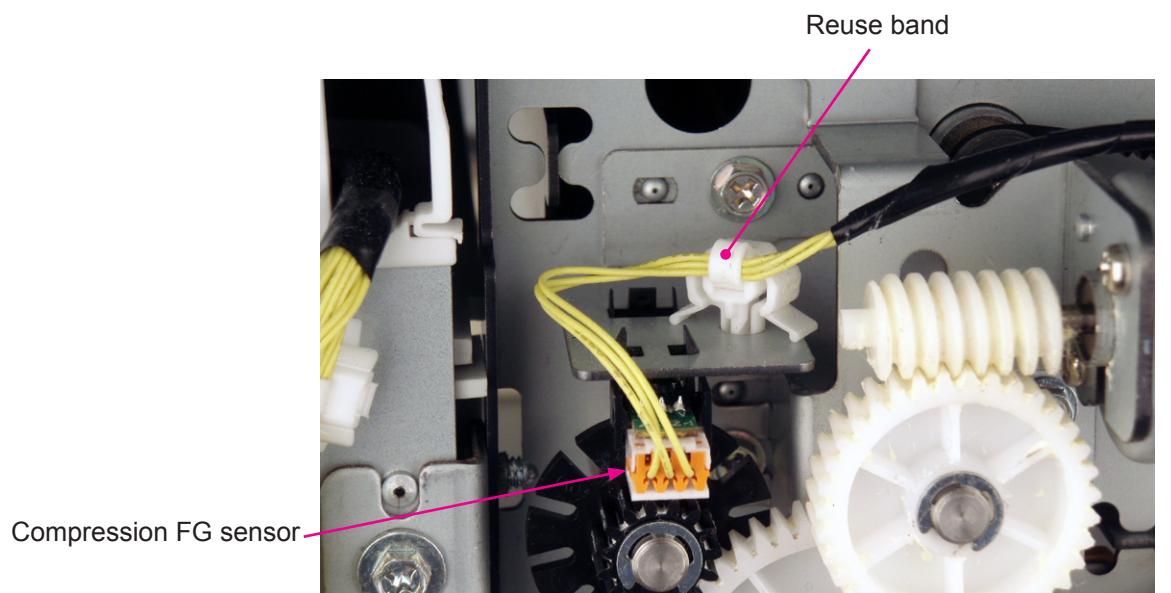
1110

< Master disposal box >

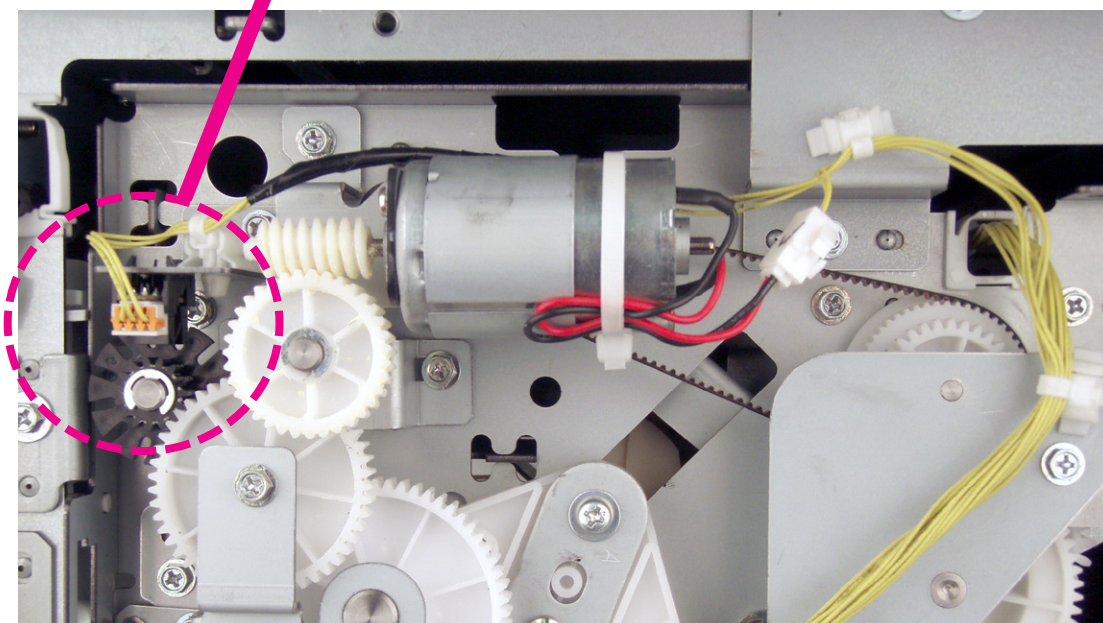
2. Removing the Compression FG Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Front cover.
- (2) Disconnect the connector to the sensor and unplug the Reuse band from the sensor bracket.
- (3) Remove a screw (M3 x 6 screw; 1 pc) and remove the Compression FG sensor together with the bracket.



1111

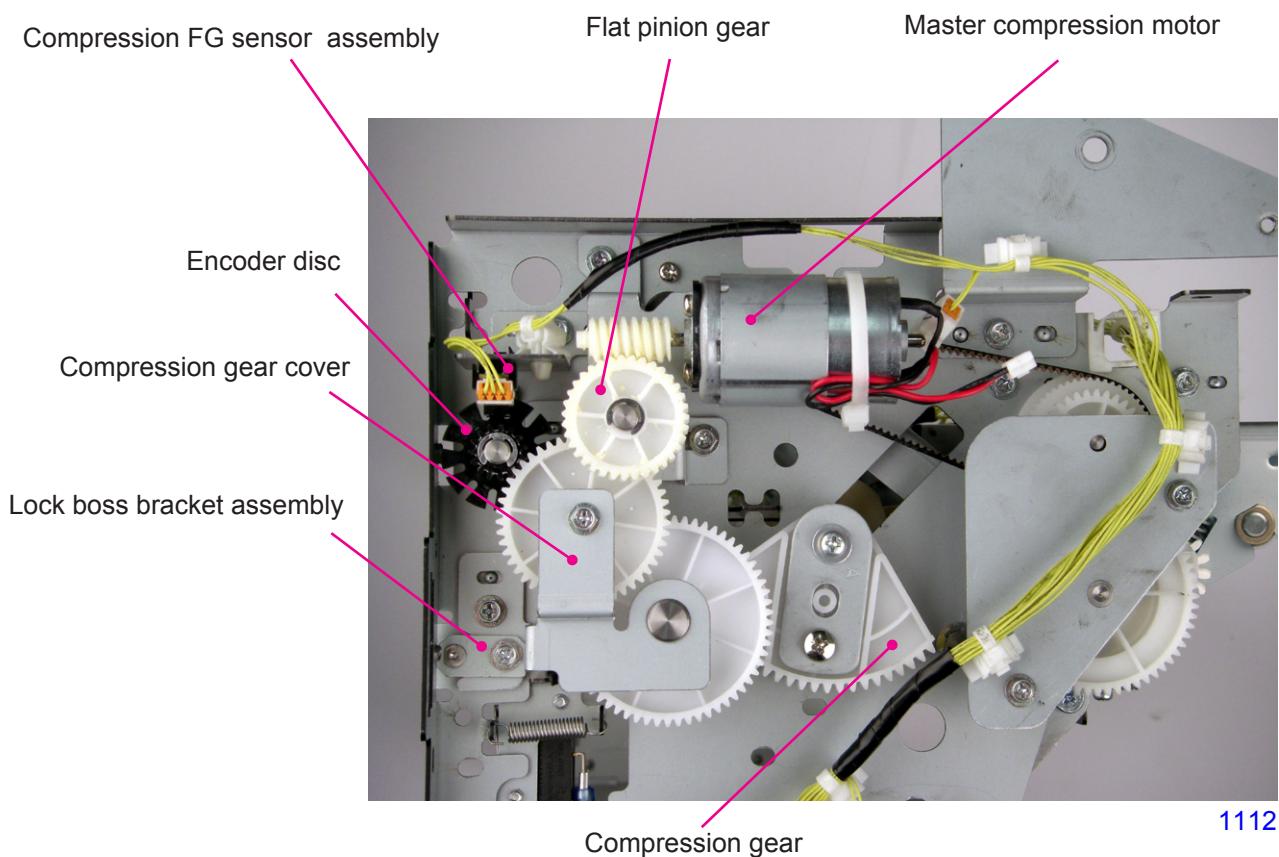


1109

3. Removing the Master Compression Motor

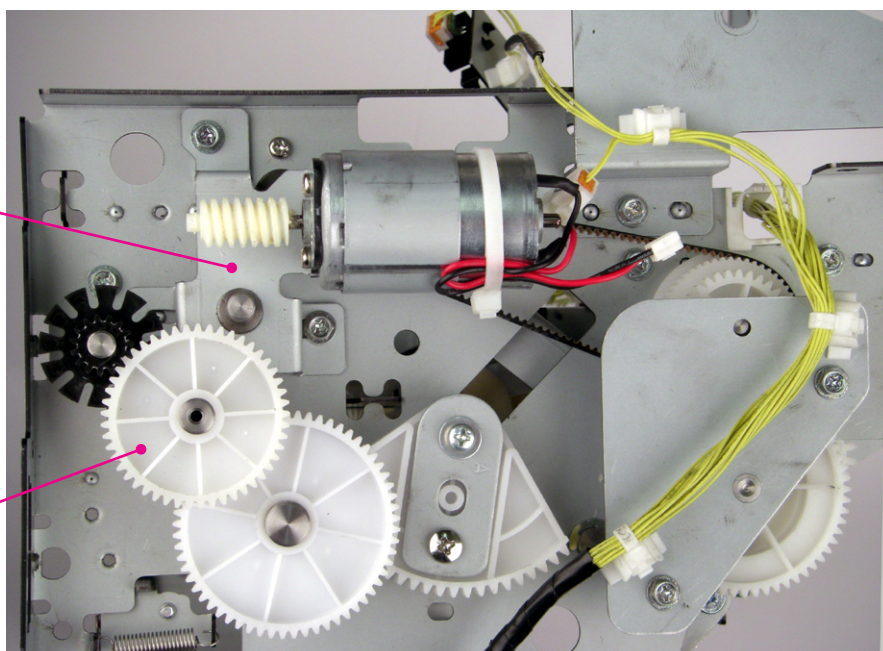
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch OFF the machine power and remove the Front cover.
- (2) Remove the Flat pinion gear by removing an E-ring (4mm diameter E-ring; 1 pc).
- (3) Let the Master compression plate swings down by its own weight.
- (4) Remove a screw (M3 x 8 screw; 1 pc) and remove the Lock boss bracket assembly.
- (5) Remove a screw (M3 x 6 screw; 1 pc) and remove the Compression gear cover.
- (6) Remove the Spur gear.
- (7) Remove the Compression FG sensor assembly. (Refer to the previous page.)
- (8) Remove the Encoder disc by removing an E-ring (4mm diameter E-ring; 1 pc).
- (9) Remove screws (M3 x 6 screws; 3 pcs) and remove the Master compression motor, together with the motor bracket.
- (10) Remove the motor from the bracket by removing screws (M3 x 5 screws; 2 pcs).

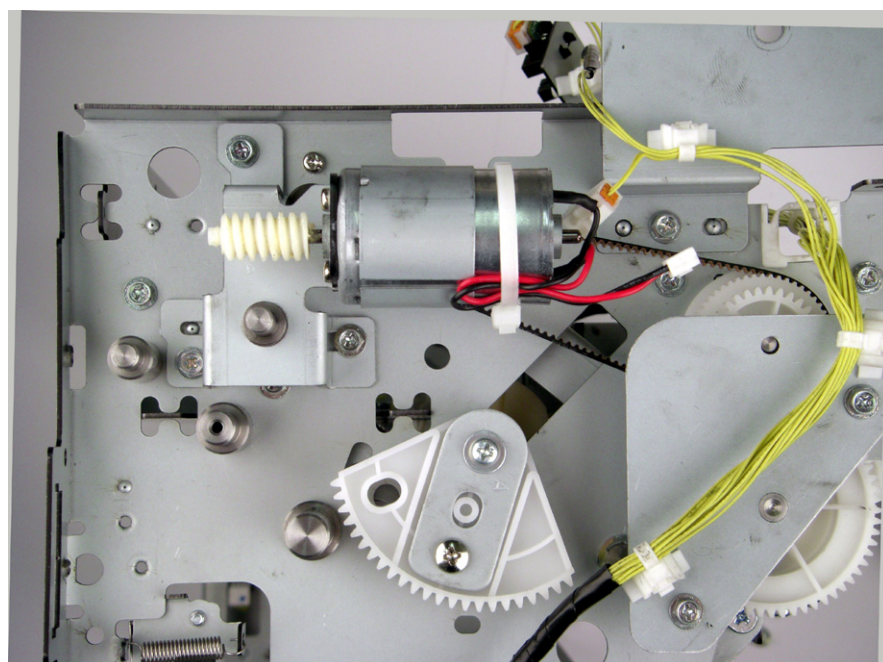


Master compression
motor bracket

Spur gear



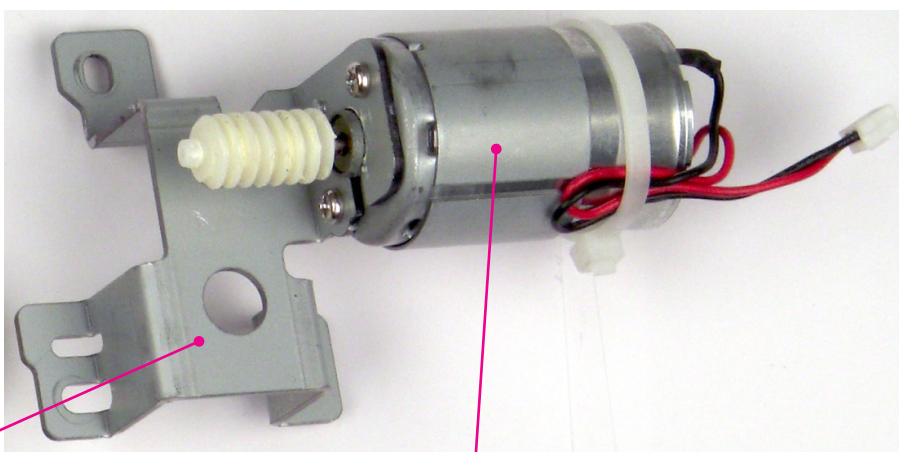
1113



1114

Master compression
motor bracket

Master compression motor

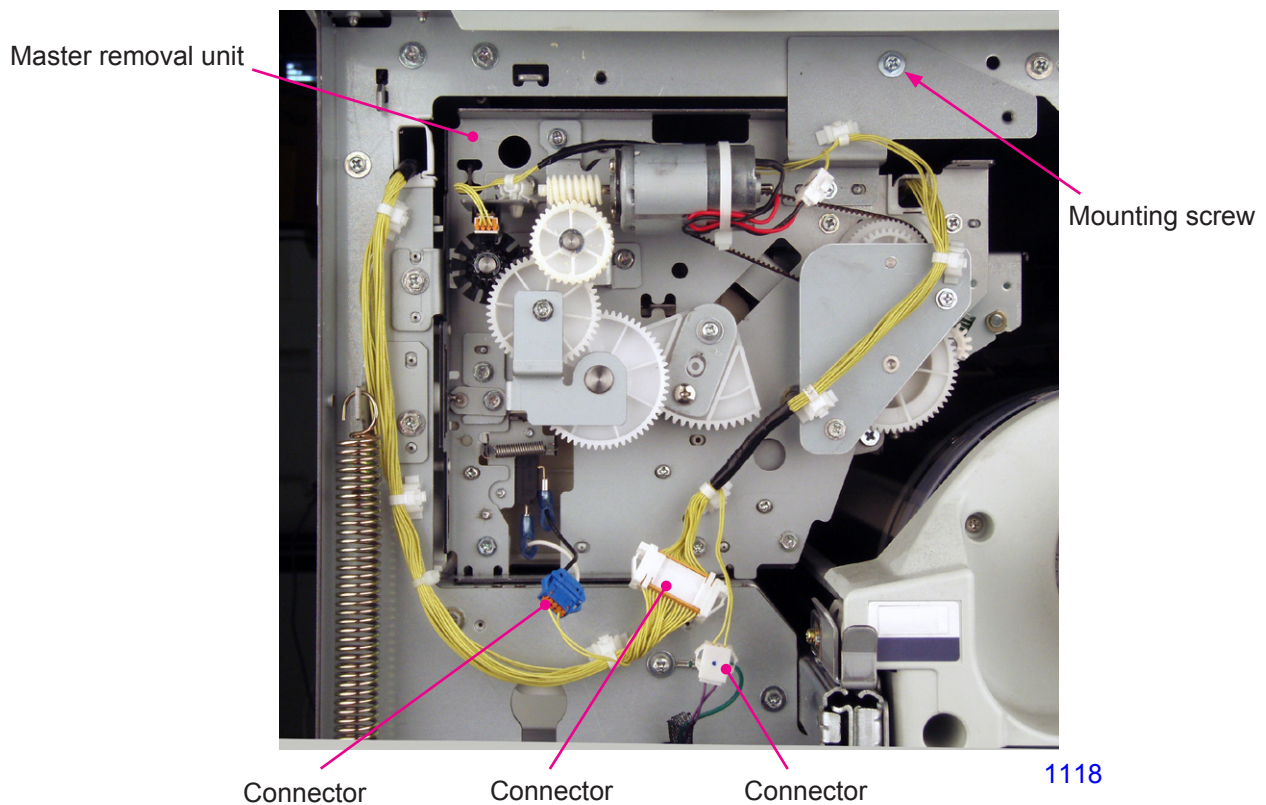
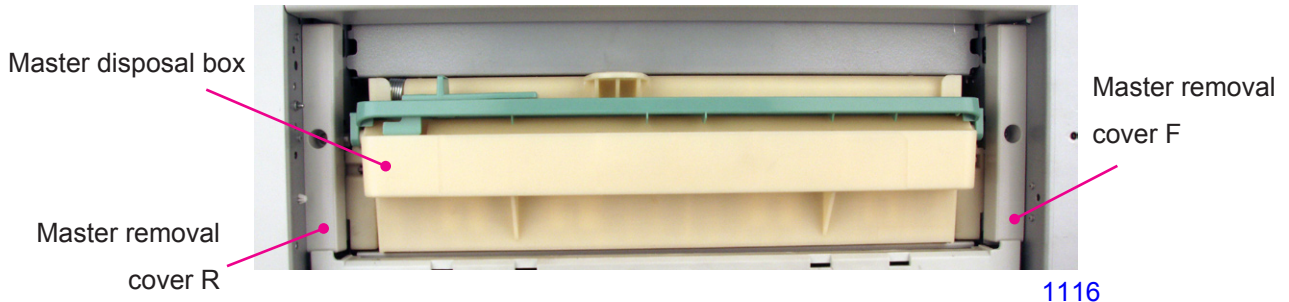


1115

4. Removing the Master Removal Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch OFF the machine power, remove the Master disposal box and remove the Front cover.
- (2) Remove the Master removal covers F & R by removing screws (M3 x 8 screw; 1 pc each).
- (3) Remove the screws (M4 x 8 screw; 1 pc each) found after removing the Master removal covers F & R.
- (4) On the operators side of the machine (front), disconnect three connectors and remove one screw (M4 x 8 screw; 1 pc) located on the top right, and slide the Master removal unit out toward the operators side of the machine.



5. Removing the Master Removal Sensor & Master Loading Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch OFF the machine power and remove the Master removal unit from the machine.

Removing the Master removal sensor

- (2) Disconnect the sensor connector, remove a screw (M3 x 6 screw; 1 pc), and remove the Master removal sensor together with the sensor bracket.

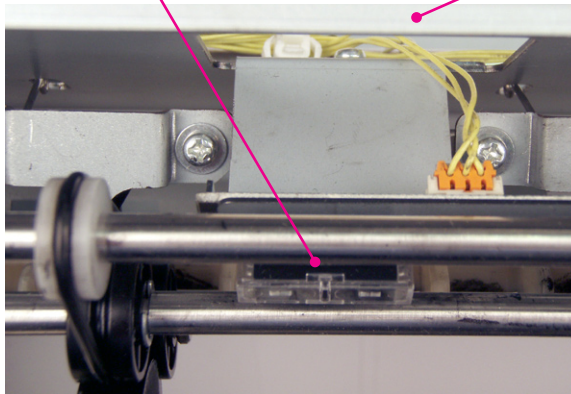
Removing the Master loading sensor

- (2) Disconnect the sensor connector, remove a screw (M3 x 6 screw; 1 pc) by inserting a screwdriver through a hole on the Master removal housing, and remove the Master loading sensor.

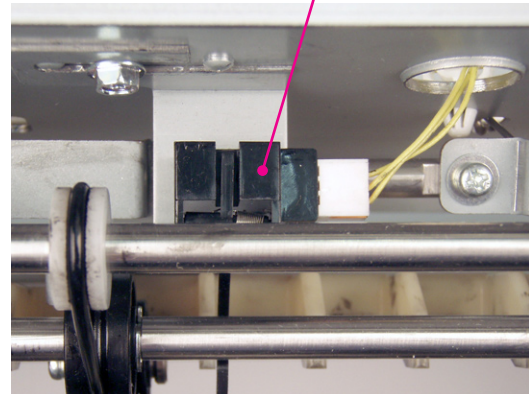
Master loading sensor

Master removal housing

Master removal sensor



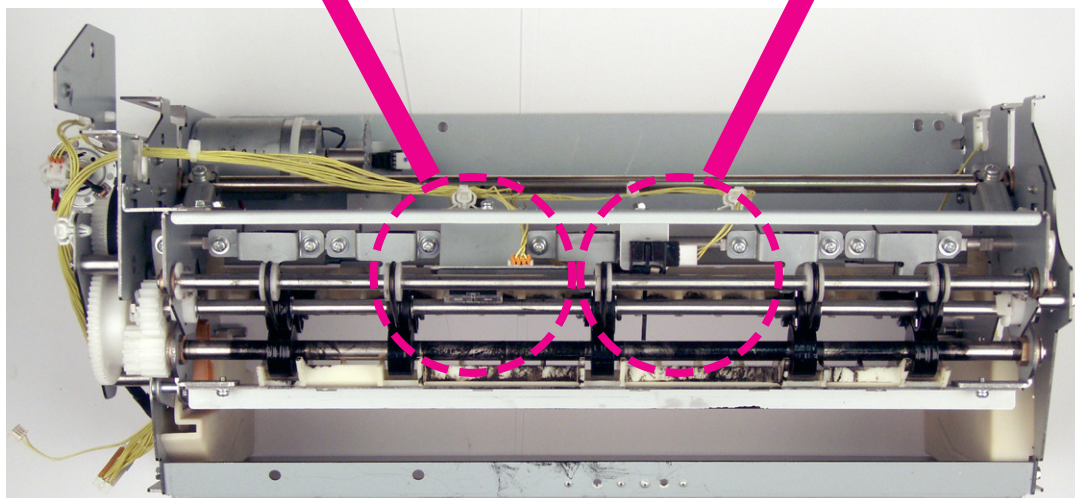
1119



1120

FRONT

REAR



< Master removal unit >

1121

6. Removing the Master Removal Motor & FG sensor

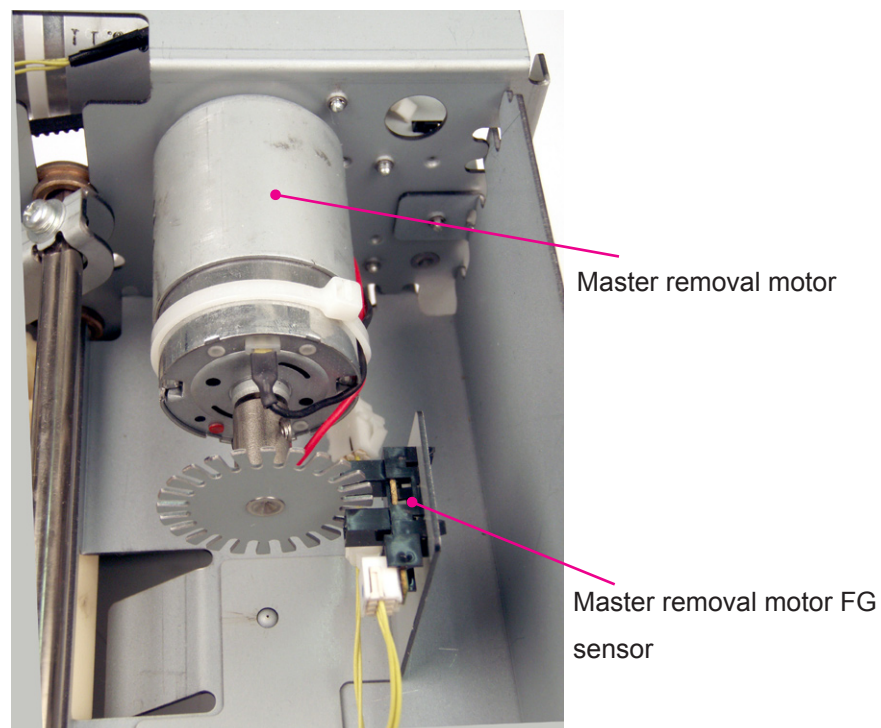
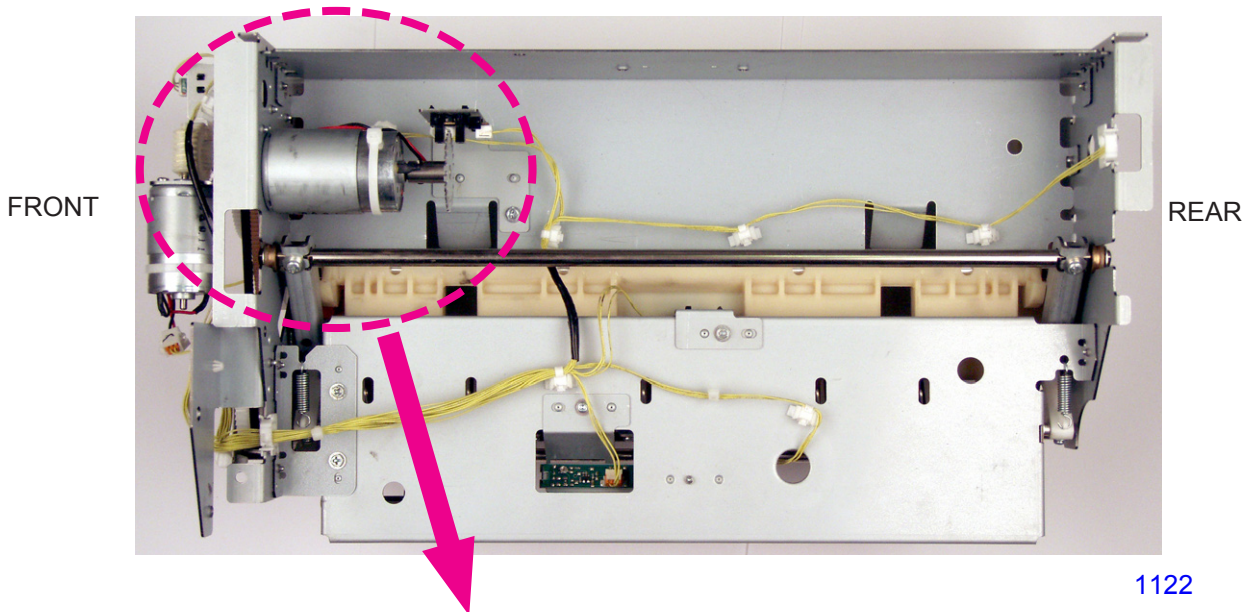
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Removing the Master removal motor

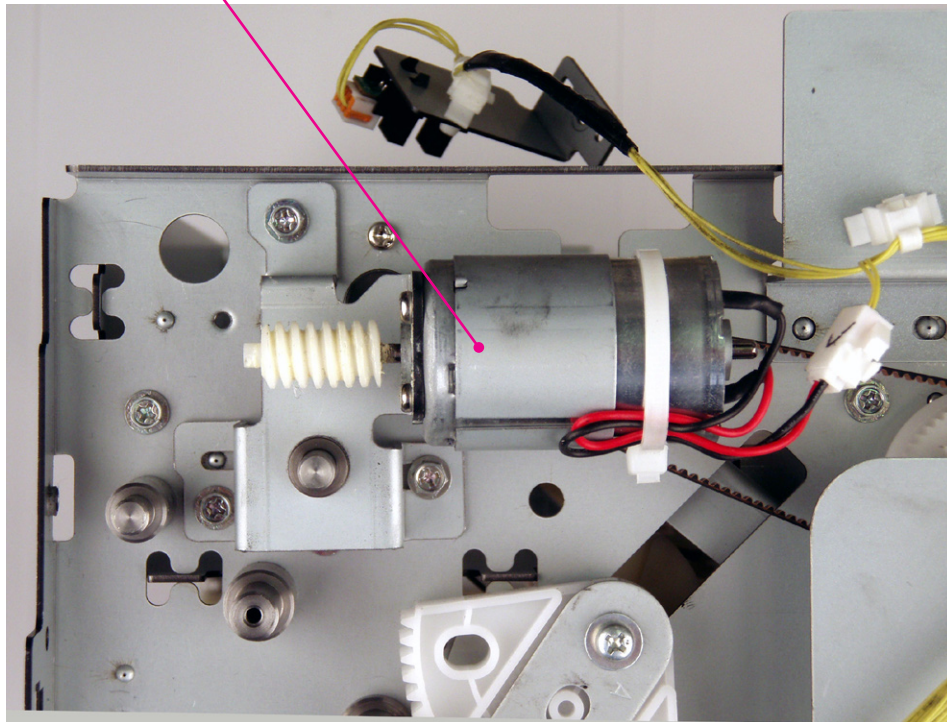
- (1) Switch OFF the machine power and remove the Master removal unit. (Refer to the previous pages.)
- (2) Remove the Compression FG sensor assembly. (Refer to the previous pages.)
- (3) Remove the Master compression motor. (Refer to the previous pages.)
- (4) Disconnect the motor connector, remove screws (M3 x 5 screws; 2 pcs), and remove the Master removal motor.

Removing the Master removal motor FG sensor

- (5) Disconnect the sensor connector and remove the master removal motor FG sensor together with the bracket by removing a screw (M3 x 6 screw; 1 pc).
- (6) Remove the Master removal motor FG sensor from the sensor bracket.

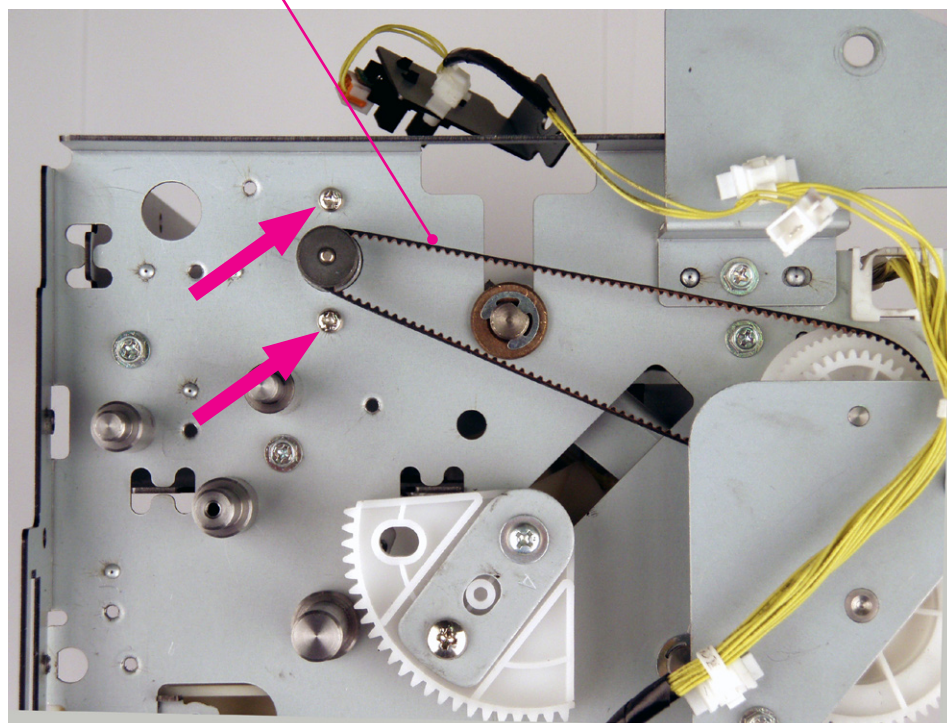


Master compression motor



1124

Timing belt



1125

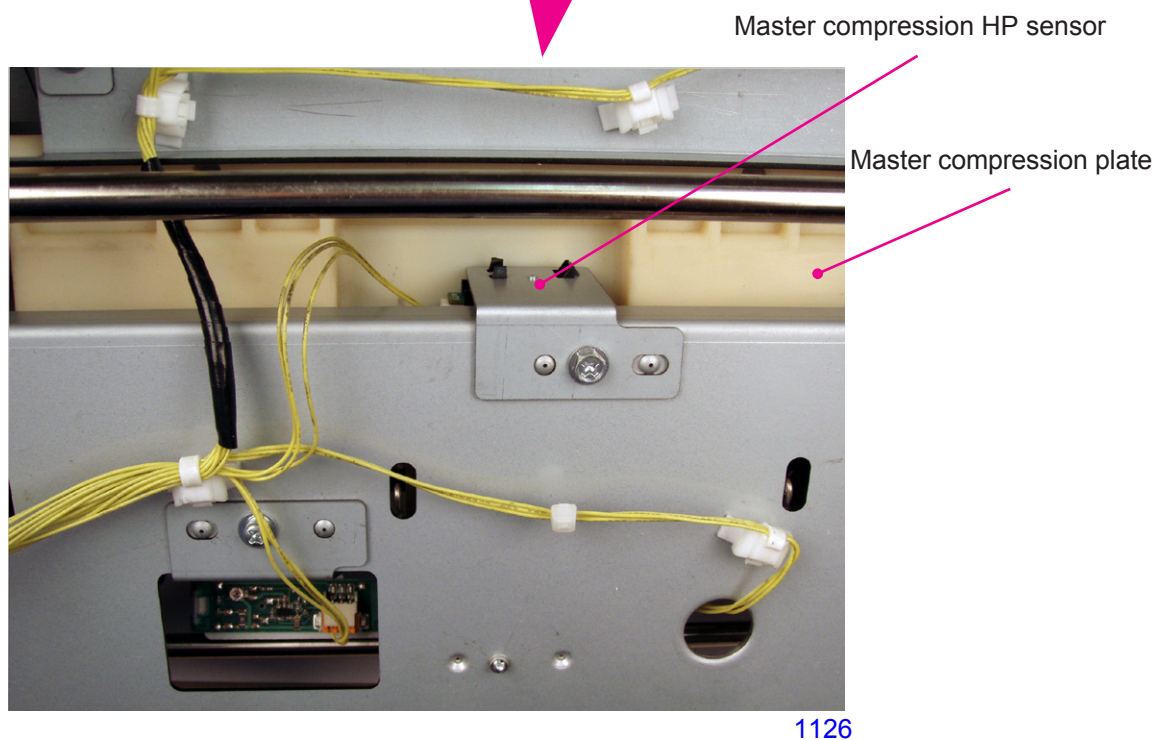
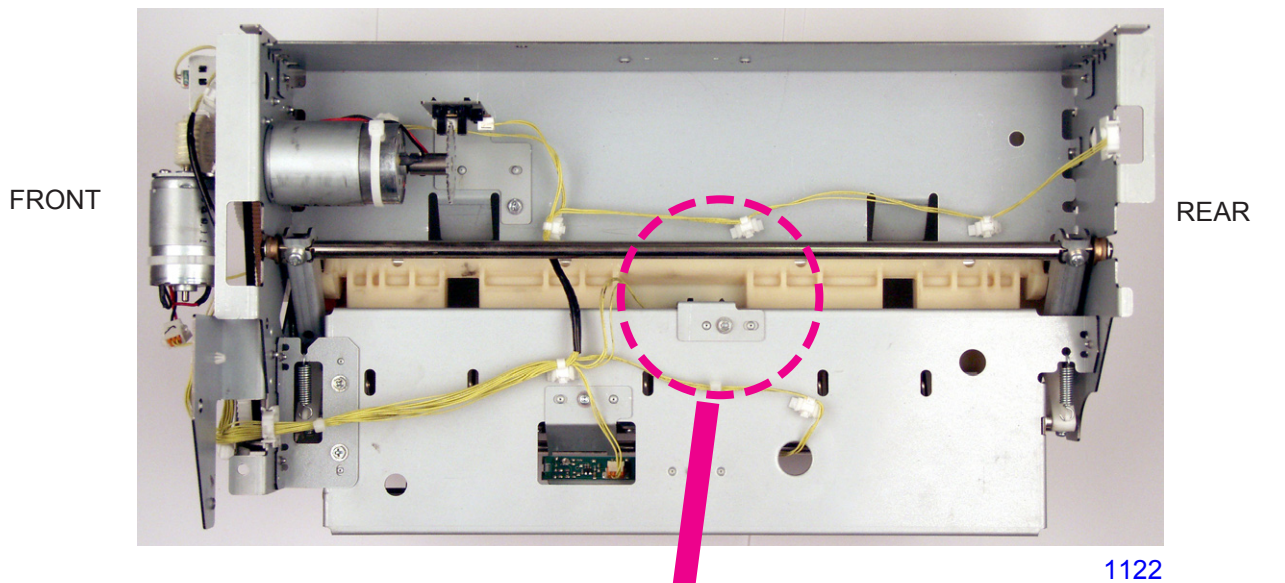
7. Removing the Master Compression HP Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Unplug the sensor connector and remove the Master compression HP sensor together with the bracket by removing a screw (M3 x 6 screw; 1 pc).
- (3) Remove the Master compression HP sensor from the sensor bracket.

< Precautions in Reassembly >

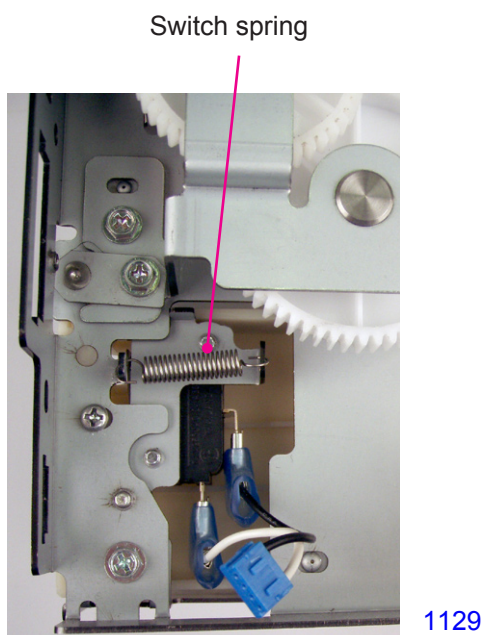
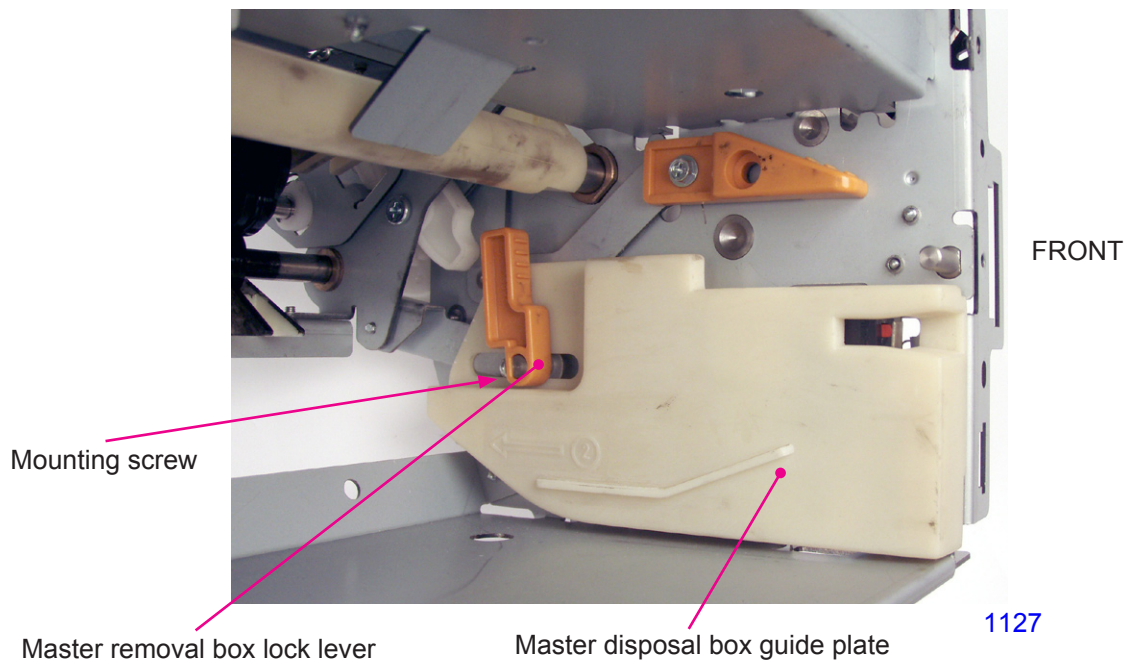
Mount the Master compression plate at its home position during the assembly.



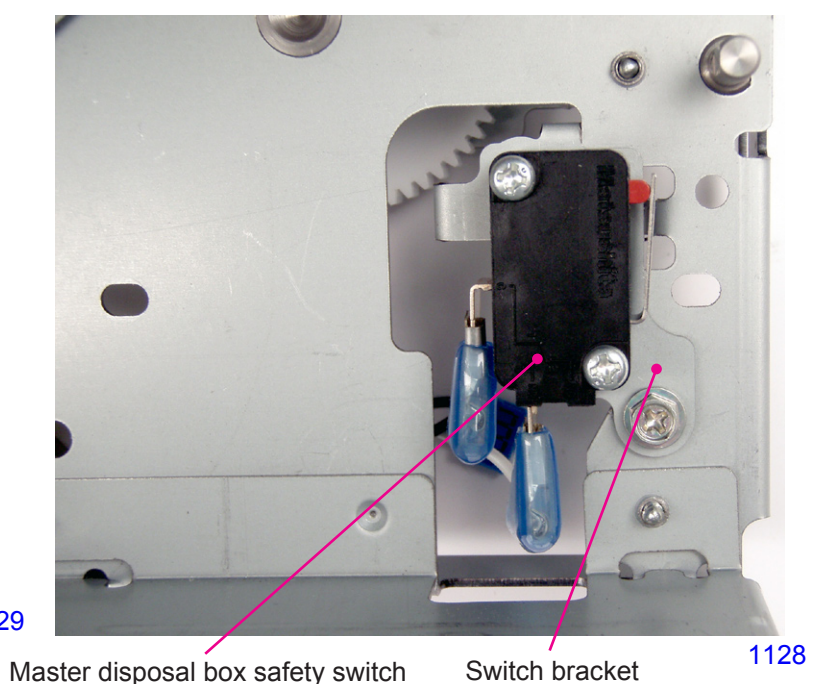
8. Removing the Master Disposal Box Safety Switch

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Remove a screw (M3 x 6 screw; 1 pc) and remove the Master disposal box lock lever.
- (3) Remove screws (M3 x 8 screws; 3 pcs) and remove the Master disposal box guide plate.
- (4) Remove the Switch spring.
- (5) Disconnect the switch connector, remove a Shoulder screw and remove the Master disposal box safety switch together with switch bracket.
- (6) Remove the Master disposal box safety switch from the switch bracket by removing a screw (M3 x 8 screw; 1 pc).



< View from outside of the unit >



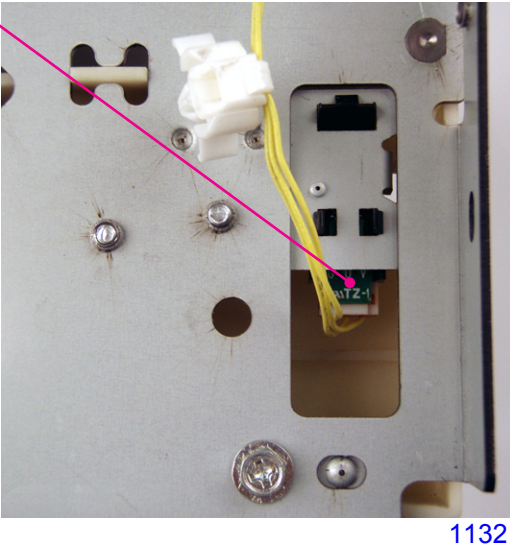
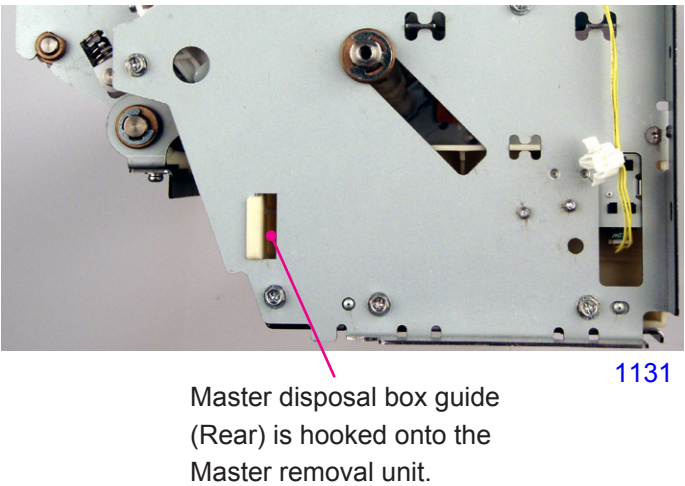
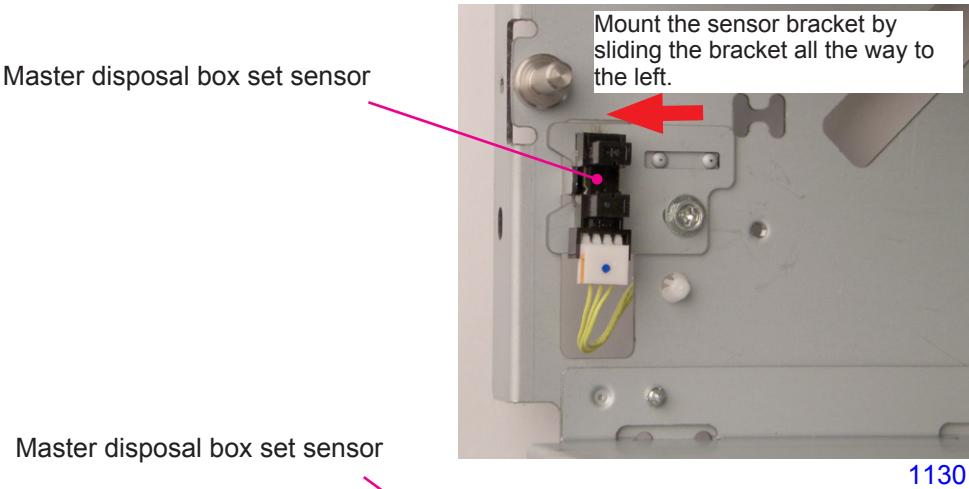
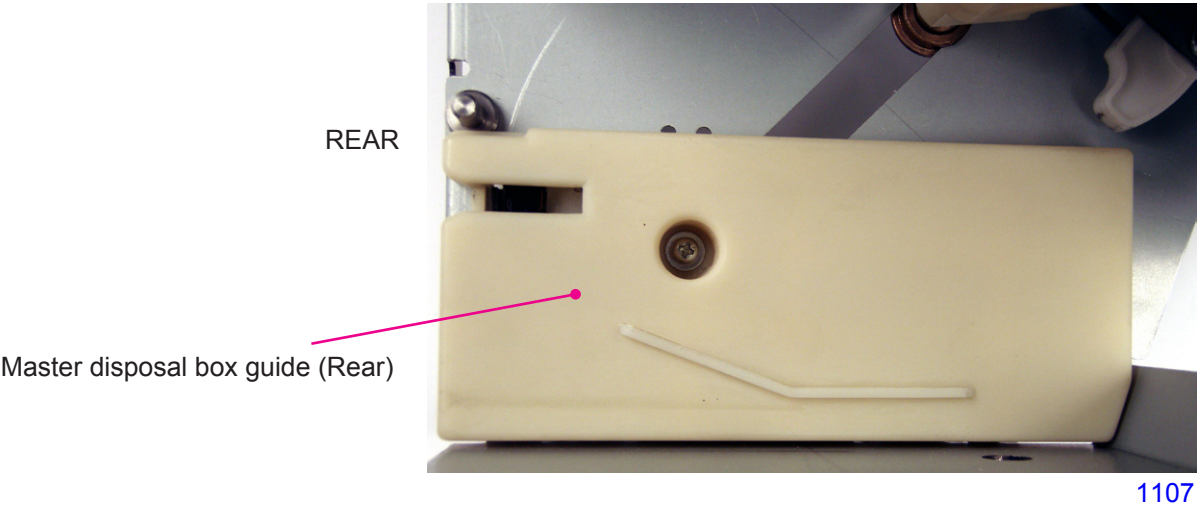
9. Removing the Master Disposal Box Set Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Remove the Master disposal box guide (Rear) by removing a screw (M3 x 6 screw; 1 pc).
- (3) Disconnect the connector and remove the Master disposal box set sensor.

< Precautions in Reassembly >

Mount the sensor bracket by sliding the bracket all the way to the left. (Refer to the second photograph below.)



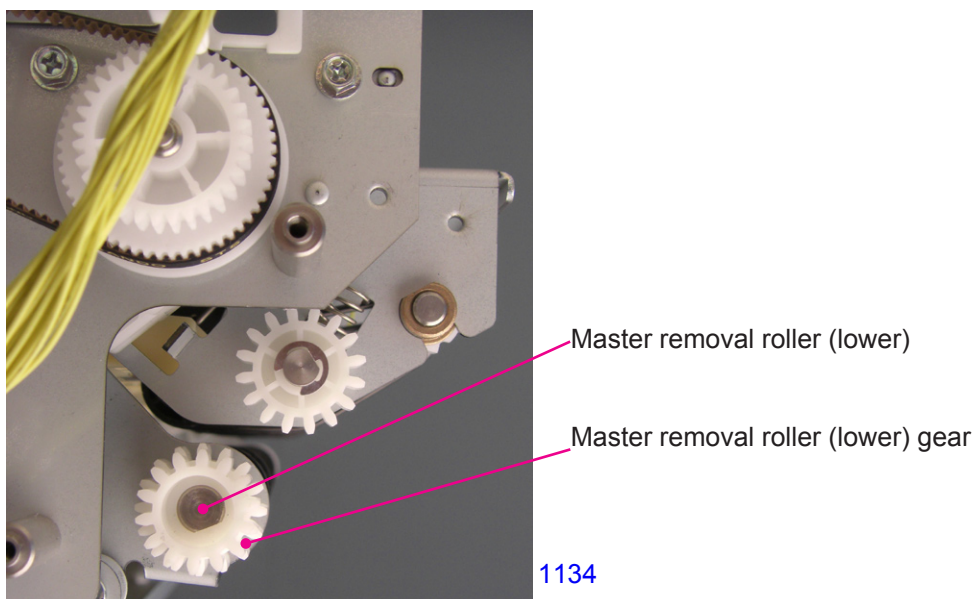
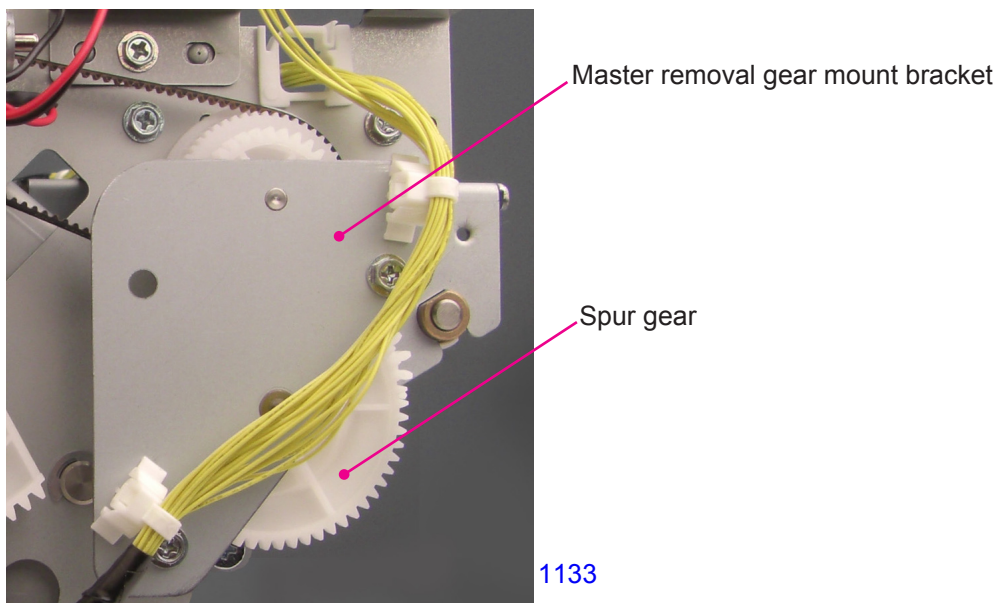
10. Removing the Master Removal Roller (lower)

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Remove the Master removal gear mount bracket by removing screws (M3 x 6 screws; 3 pcs).
- (3) Remove the Spur gear.
- (4) Press the Master removal roller release lever to drop the Master removal roller (lower).
- (5) Remove the Master removal roller (lower) gear.
- (6) Remove the Master removal guide assembly by removing screws (M3 x 6 screws; 2 pcs).
- (7) Remove E-rings (6mm diameter E-rings; 2 pcs) and Metal bushings, and remove the Master removal roller (lower).

< Refer to the photographs on the next page. >

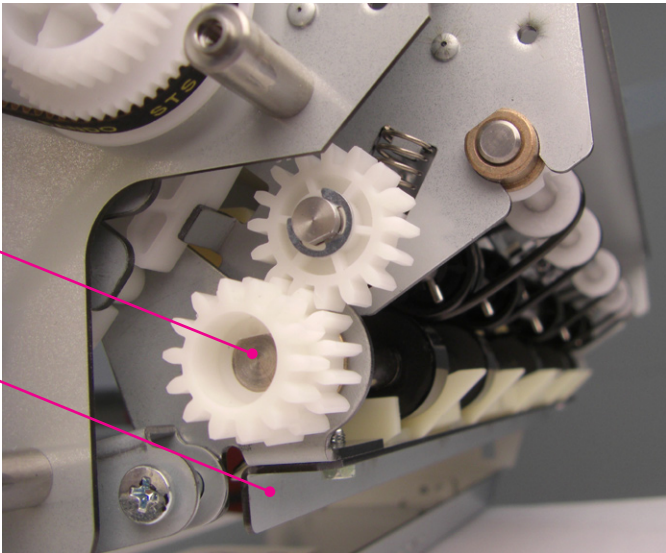
FRONT



< Master removal roller (lower) in dropped position >

Master removal roller (lower)

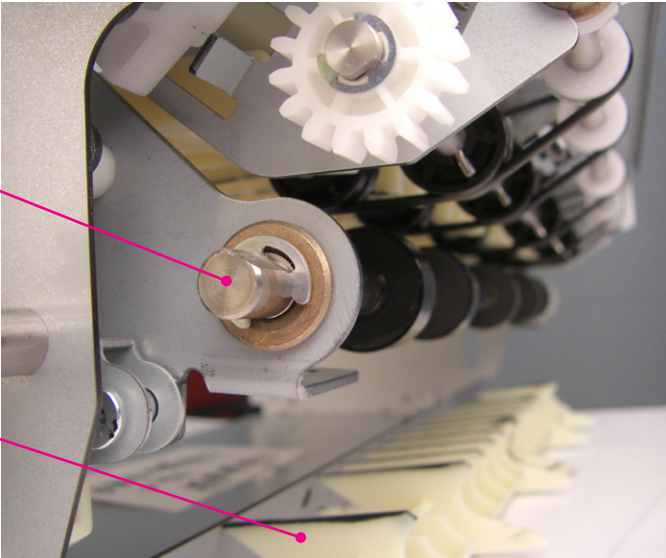
Master removal guide assembly



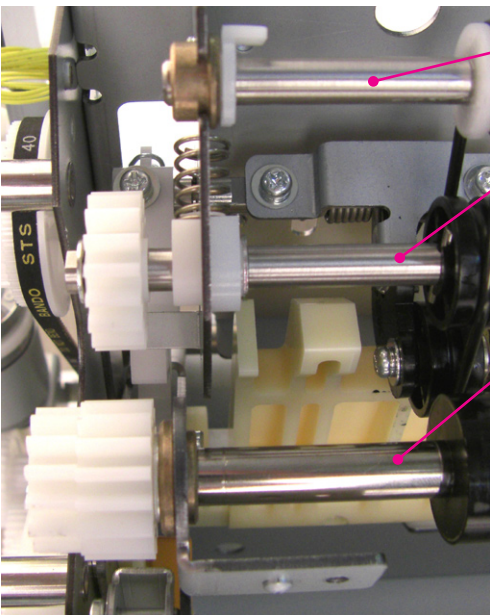
1135

Master removal roller (lower)

Master removal guide assembly



1136



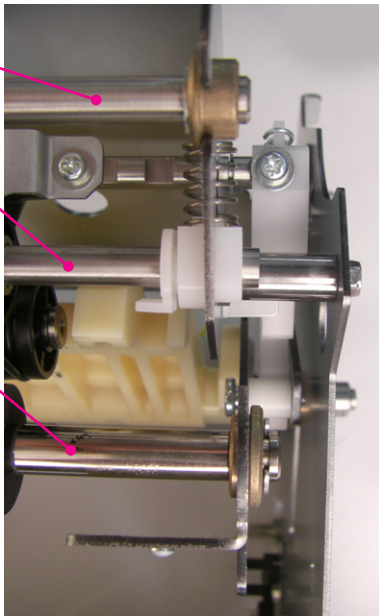
FRONT

1137

Pulley shaft

Master removal roller (upper)

Master removal roller (lower)



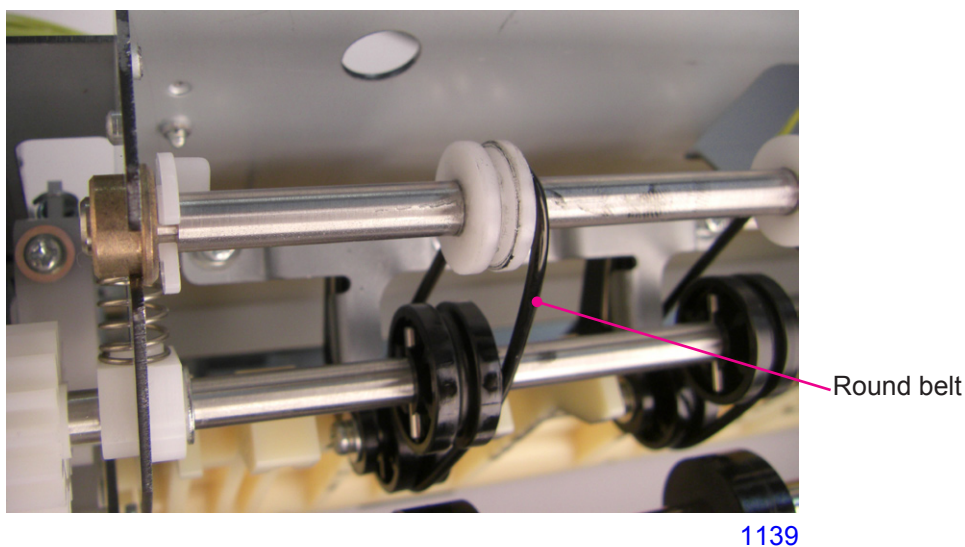
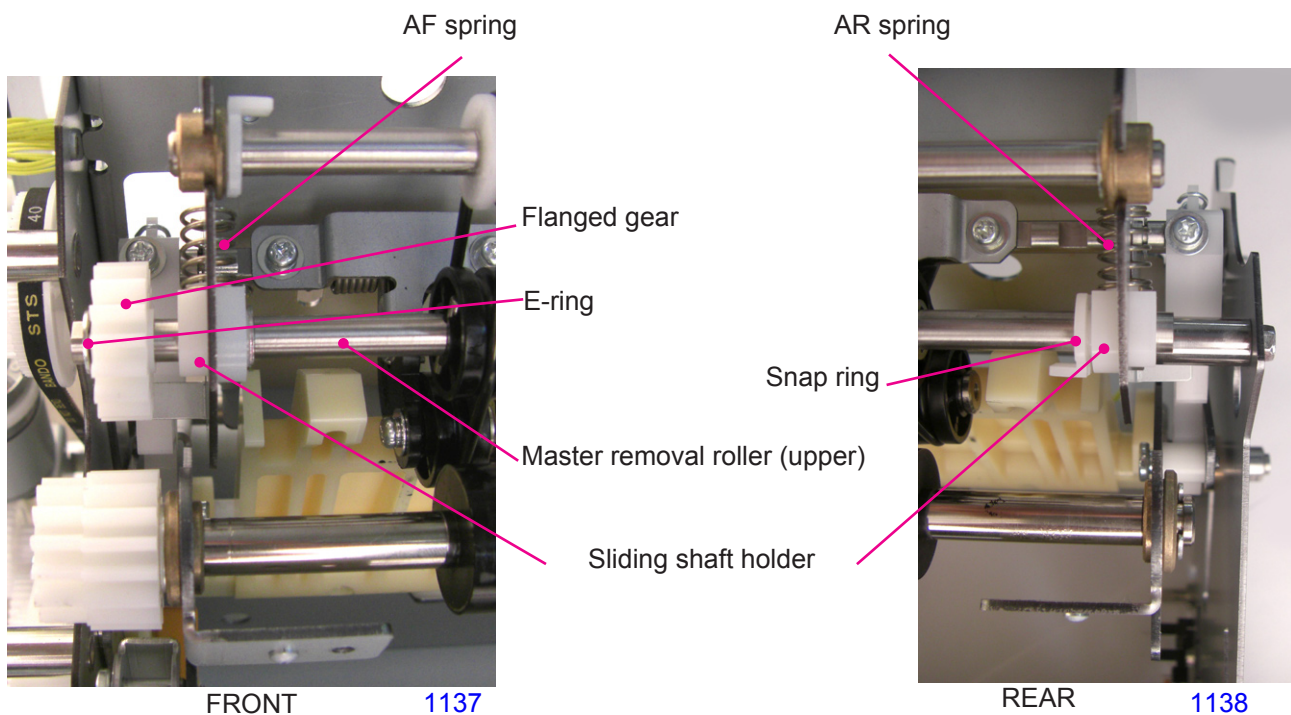
REAR

1138

11. Removing the Master Removal Roller (Upper)

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

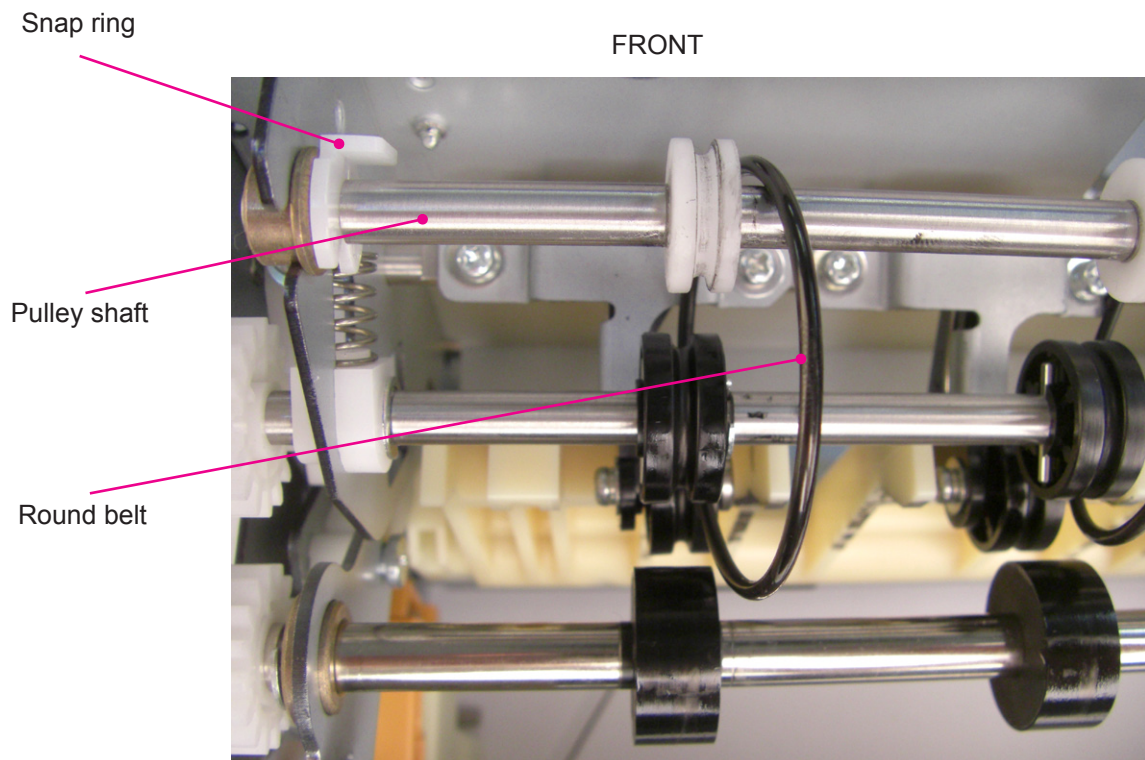
- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Press the Master removal roller release lever to release the Master removal roller (lower).
- (3) Remove the Flanged gear from the front (operator's side) by removing an E-ring (4mm diameter; 1 pc).
- (4) Remove the AF spring and AR spring from the Master removal unit.
- (5) Unhook the Round belts from the pulleys on the Master removal roller (upper).
- (6) Remove a snap ring from the front (operator's side) of the Master removal roller (upper). Slide the shaft of the roller to the front to free the rear side of the roller off the frame of the Master removal unit. Pull the master removal roller (upper) out through the Round belts.
- (7) Remove two Sliding shaft holders from the Master removal roller (upper).



12. Removing the Pulley Shaft

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Unhook the Round belts from the pulleys on the Pulley shaft.
- (3) Also on the operator's side of the unit, remove a snap ring and unhook the Metal bushing from the frame and slide inward. Remove the pulley shaft from the unit by pulling it out though the Round belts.



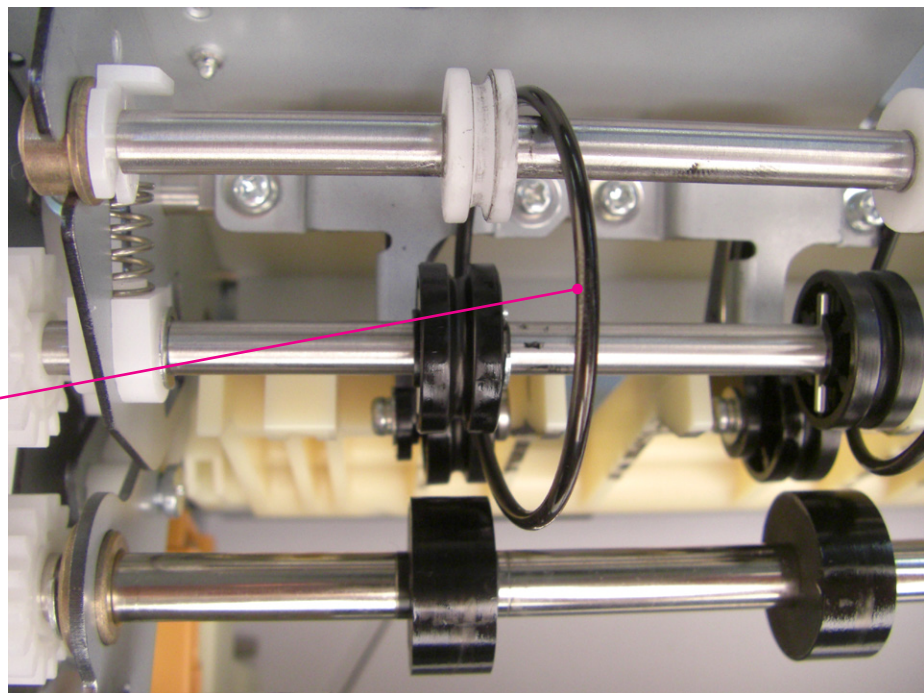
1140

13. Removing the Round Belts

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Press the Master removal roller release lever to release the Master removal roller (lower).
- (3) Removing the following two components enable the Round belts to be removed.
 - Master removal roller (upper)
 - Pulley shaft
- (4) Remove the Round belts from the Master removal pulley assembly.

Round belt



1140

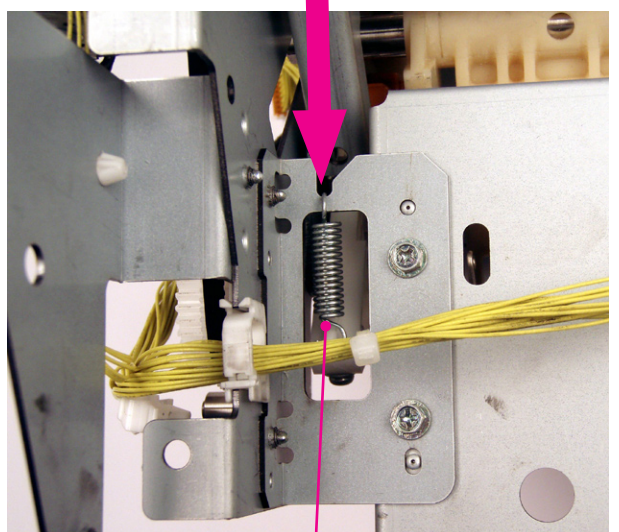
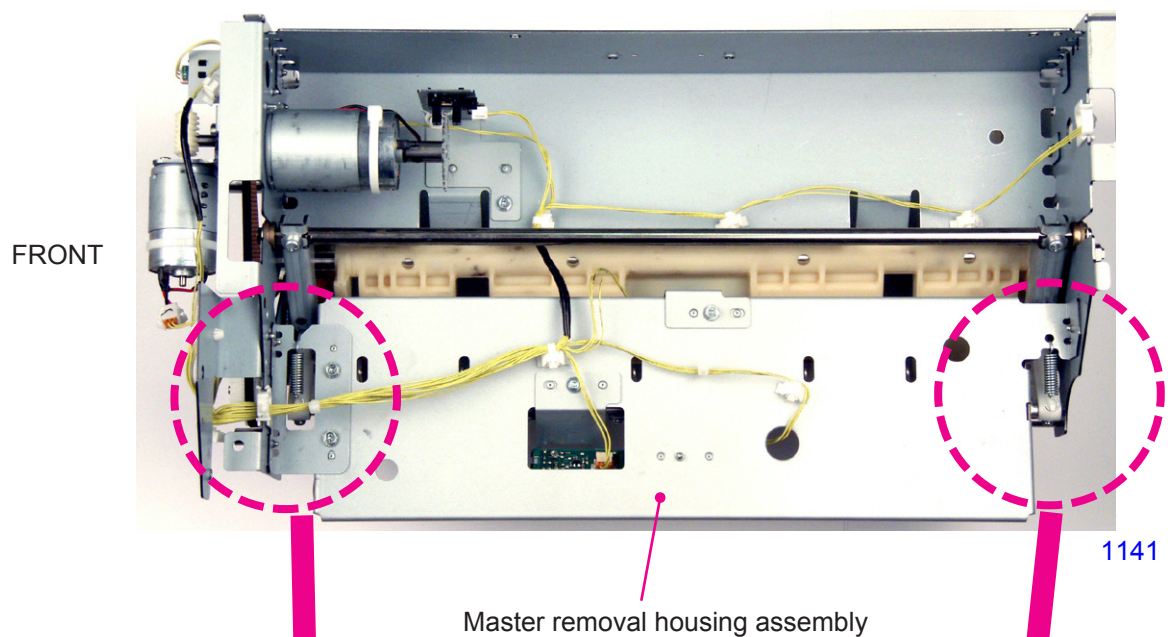
14. Removing the Master Removal Housing Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

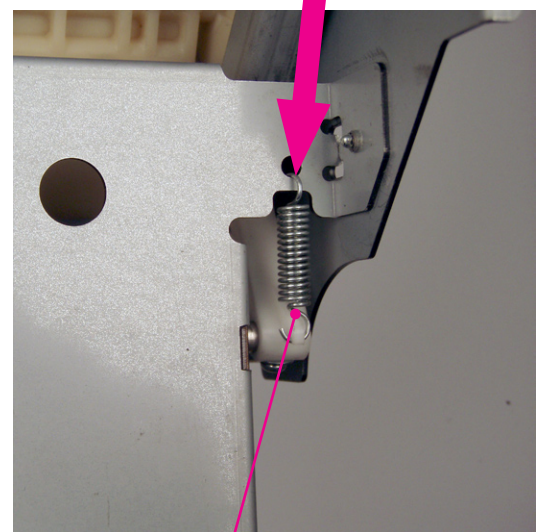
- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Press the Master removal roller release lever to release the Master removal roller (lower).
- (3) Remove both Roller hook springs F & R.
- (4) Disconnect the connector from the Master removal side frame F, and by removing screws (M3 x 6 screws; 2 pcs each) from the front and rear, remove the Master removal housing assembly.

< Precautions in Reassembly >

Make sure to position the boss of the Release lever in the hook portion of the Master removal roller hook F.
(Refer to the three photographs on the next page.)



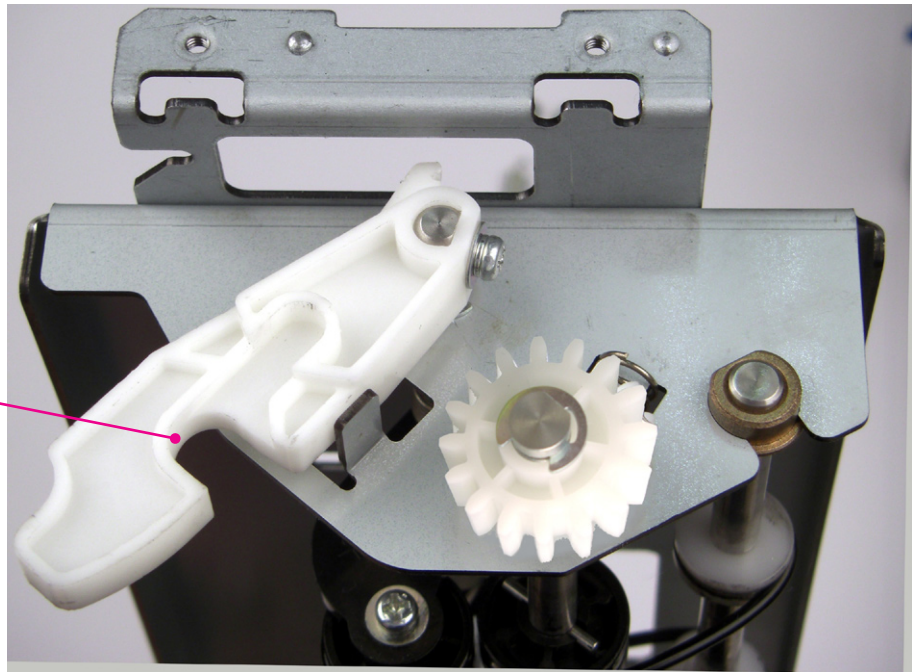
Roller hook spring F



Roller hook spring R

< Master removal housing assembly >

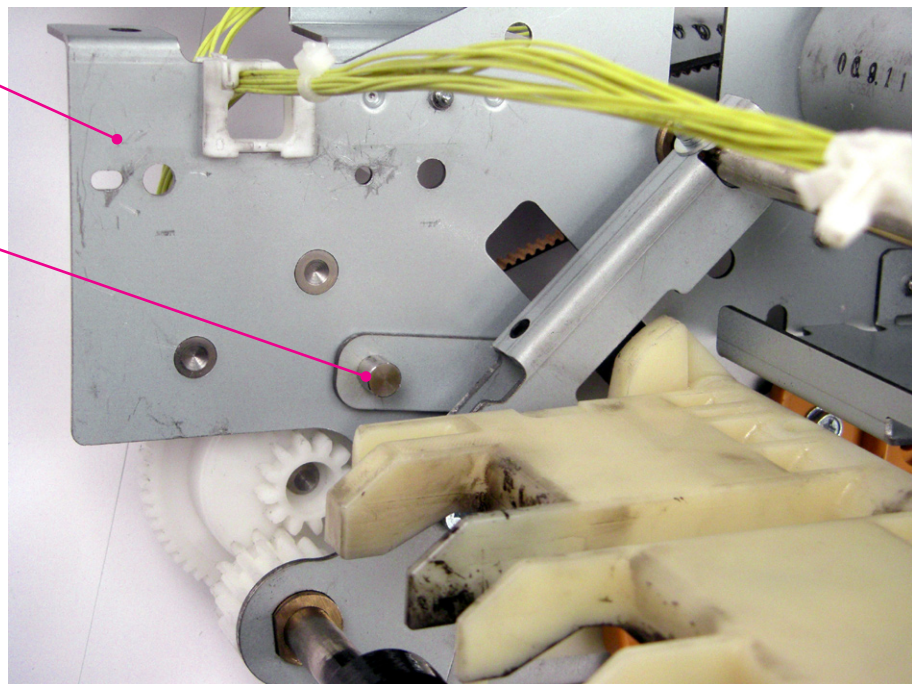
Hook portion of the
Master removal roller
hook F



1144

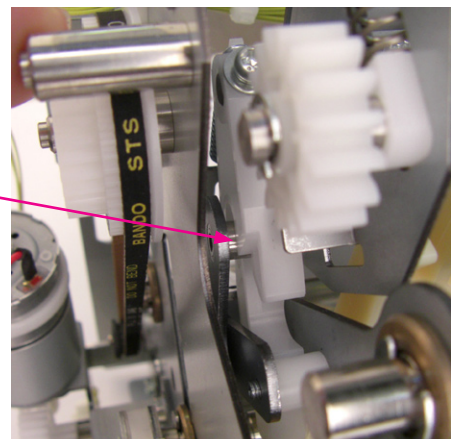
Master removal side frame F

Boss of the Release lever



1145

Make sure to position the boss of the
Release lever in the hook portion of
the Master removal roller hook F.



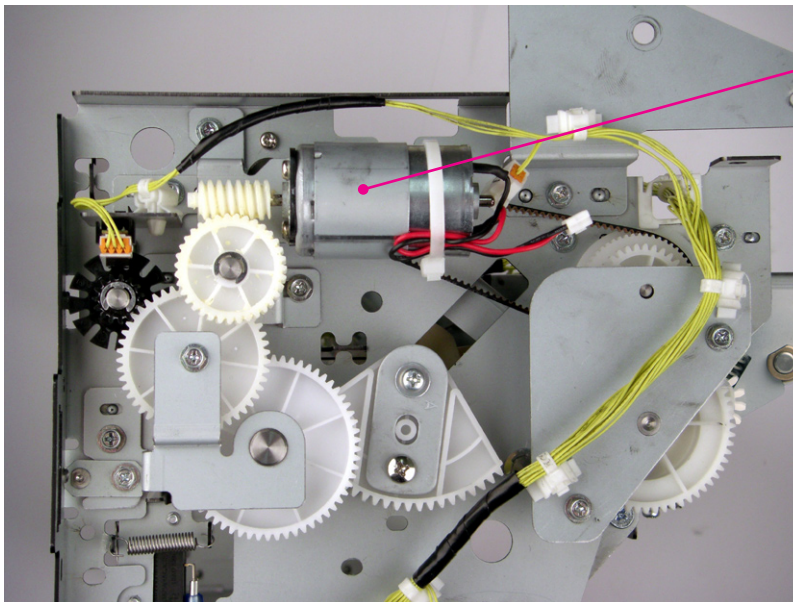
1146

15. Removing the Master Compression Plate

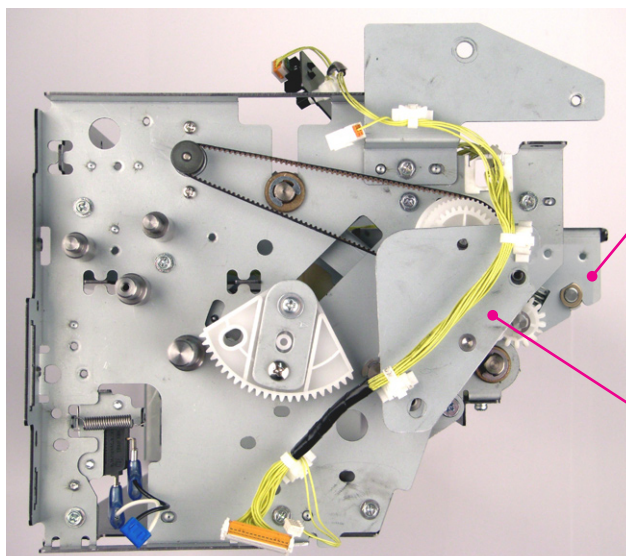
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Master removal unit.
- (2) Remove the Compression gear cover and Spur gear, and swing down the Master compression plate.
- (3) Remove the following components.
 - Compression FG sensor
 - Master compression motor
 - Master removal gear mount bracket (M3 x 6 screws; 2 pcs)
 - Master removal housing assembly
 - Master disposal box guide (Rear) (M3 x 6 screw; 1 pc)
 - Master removal roller assembly (6 mm diameter E-rings; 2 pcs and metal bushings; 2 pcs).
- (4) Remove a screw (M4 x 8 screw; 1 pc) from the front of the unit and remove the Compression gear.
- (5) Remove an E-ring (8mm diameter E-ring; 1 pc) and metal bushing from the rear of the unit.
- (6) Remove an E-ring (8mm diameter E-ring; 1 pc) and metal bushing from the front of the unit and remove the Master compression plate.

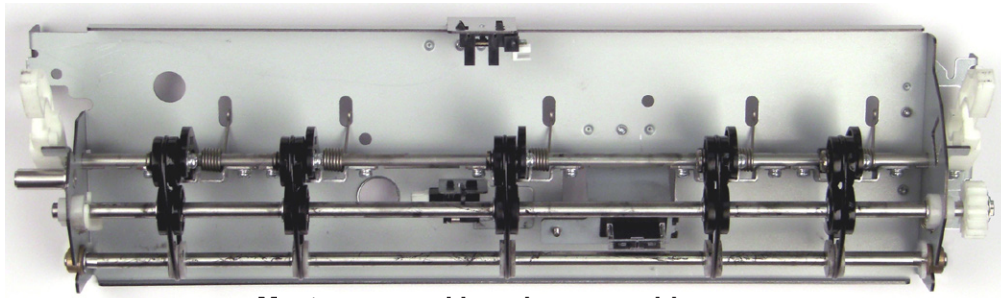
< Refer to the photographs to continue on the next three pages. >



1112

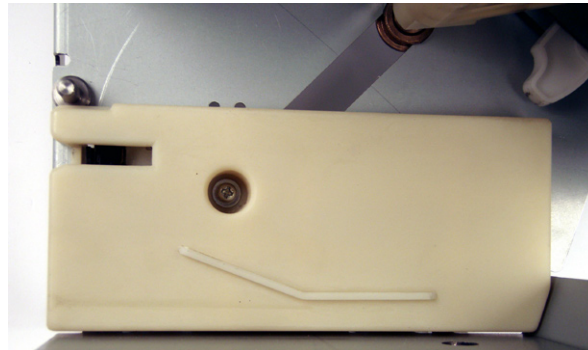


1147



< Master removal housing assembly >

1148

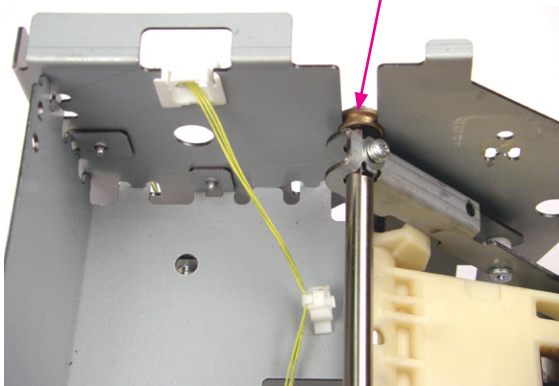


Master disposal box guide (Rear)

1107

REAR

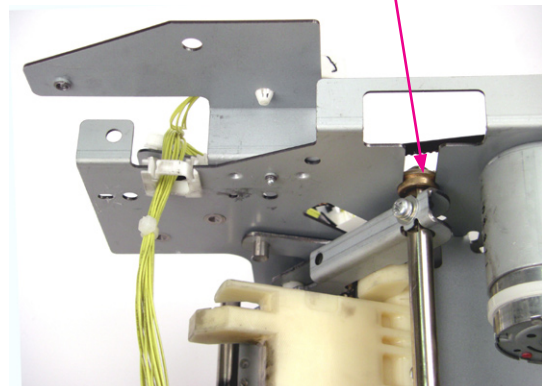
Metal bushing



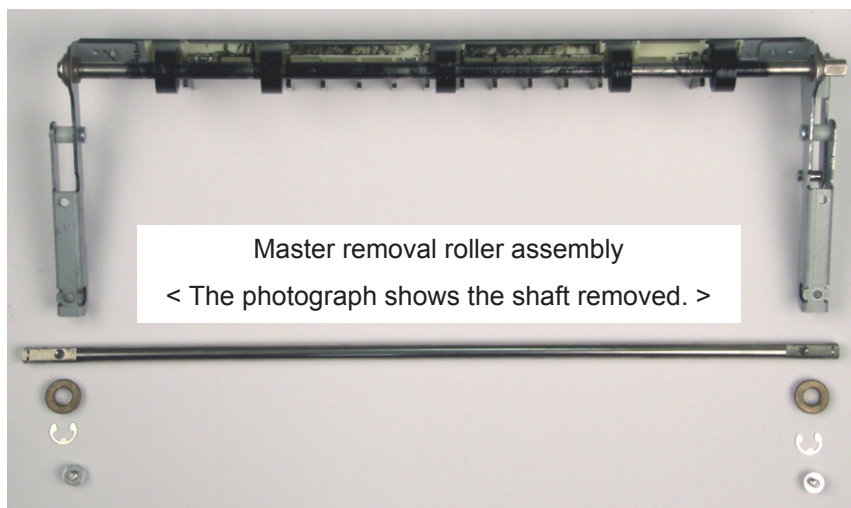
1149

FRONT

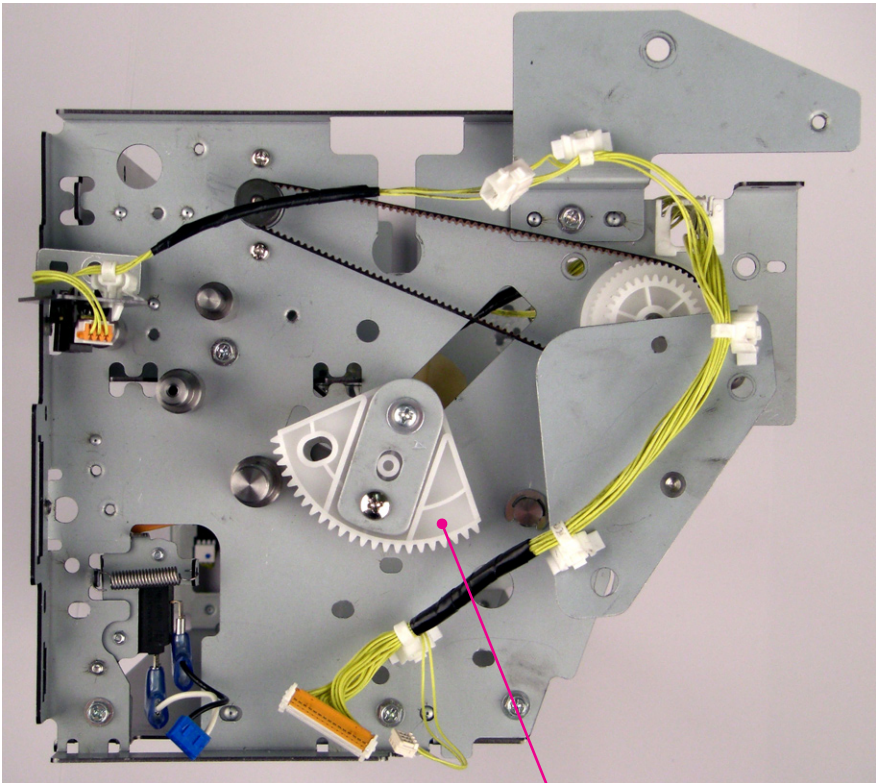
Metal bushing



1150



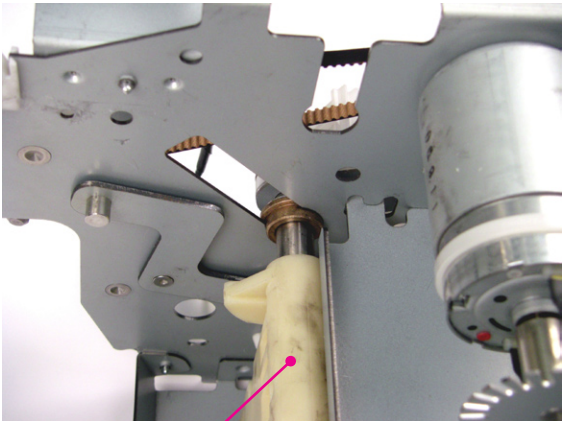
1151



Compression gear

1152

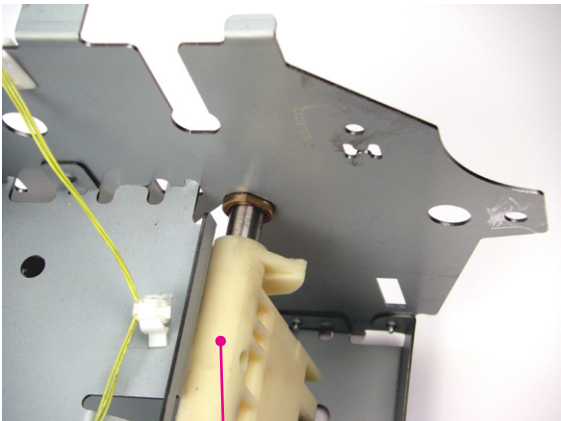
FRONT



Master compression plate

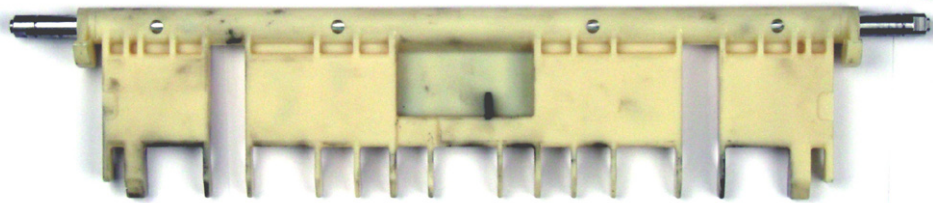
1153

REAR



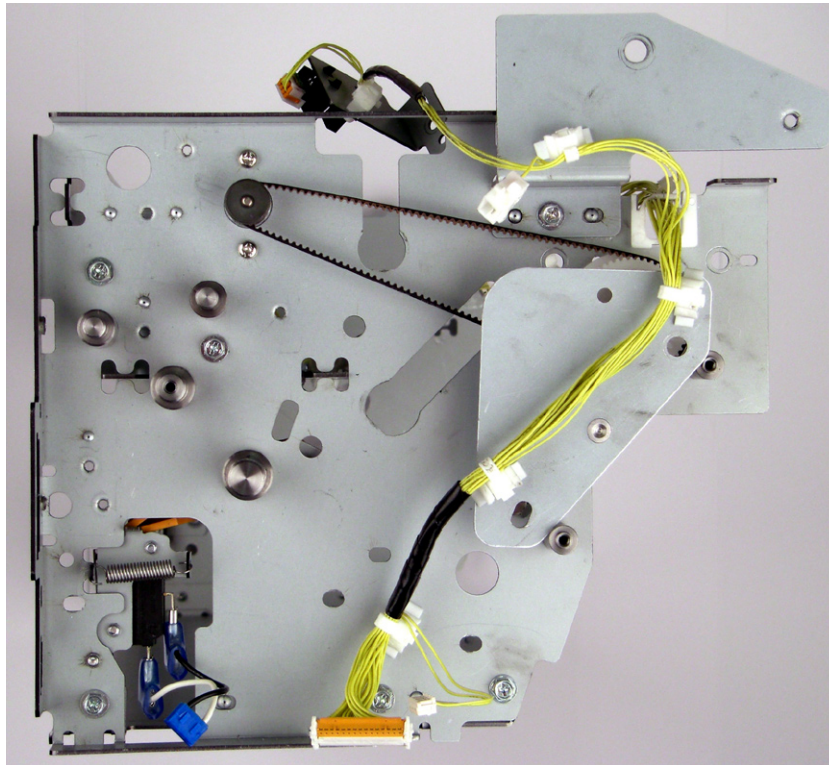
Master compression plate

1154



< Master compression plate >

1155



< View of the Master removal unit after removing the Master compression plate >

MEMO

CHAPTER 12: FB ORIGINAL SCANNING SECTION

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Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

1. Original Scanning Mechanism

The scanner scans the image on the original by means of three movable mirrors reflecting the image to a fixed position CCD.

The image on the original is lit by a fluorescent lamp and a reflector, and three mirrors catch the image. The three mirrors, Mirror No.1, No.2 and No.3, reflects the image to the CCD in this given order.

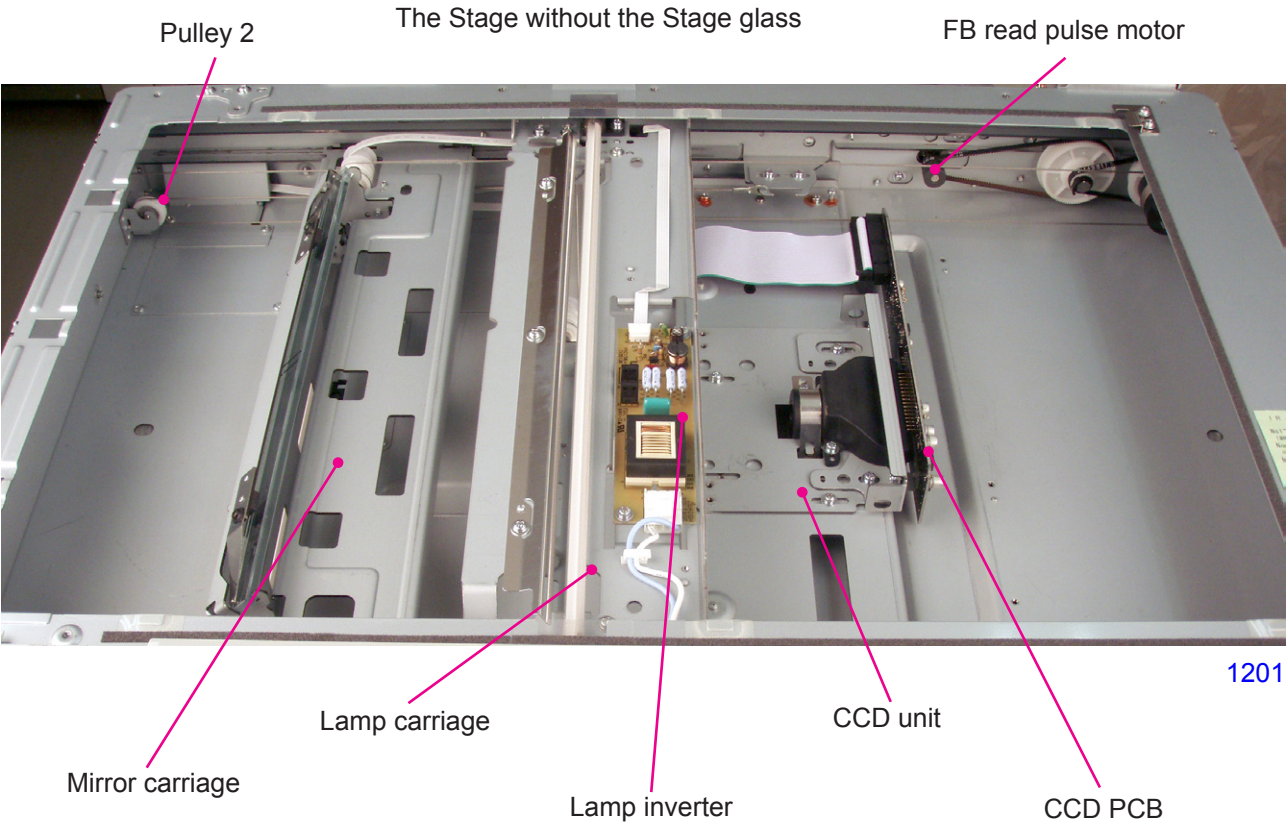
These three mirrors are mounted on two carriages. The first carriage is the Lamp carriage in which the fluorescent lamp, reflector, lamp inverter and Mirror No.1 is mounted. The second is the Lamp carriage in which the Mirror No.2 and No.3 are mounted.

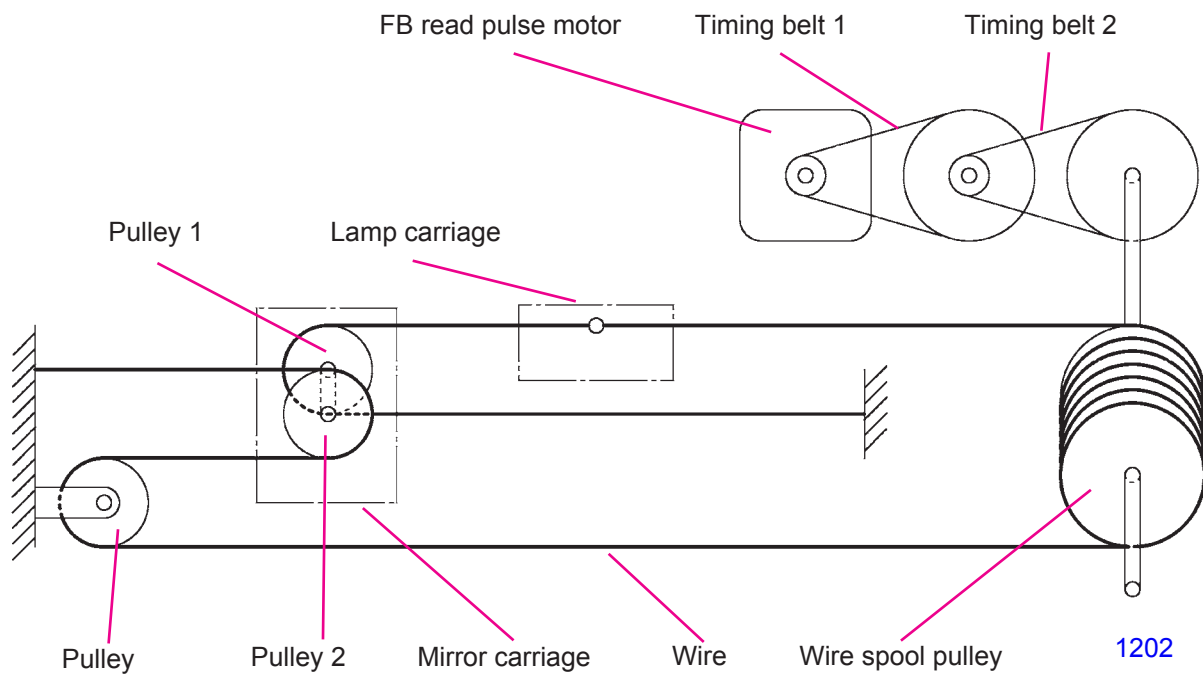
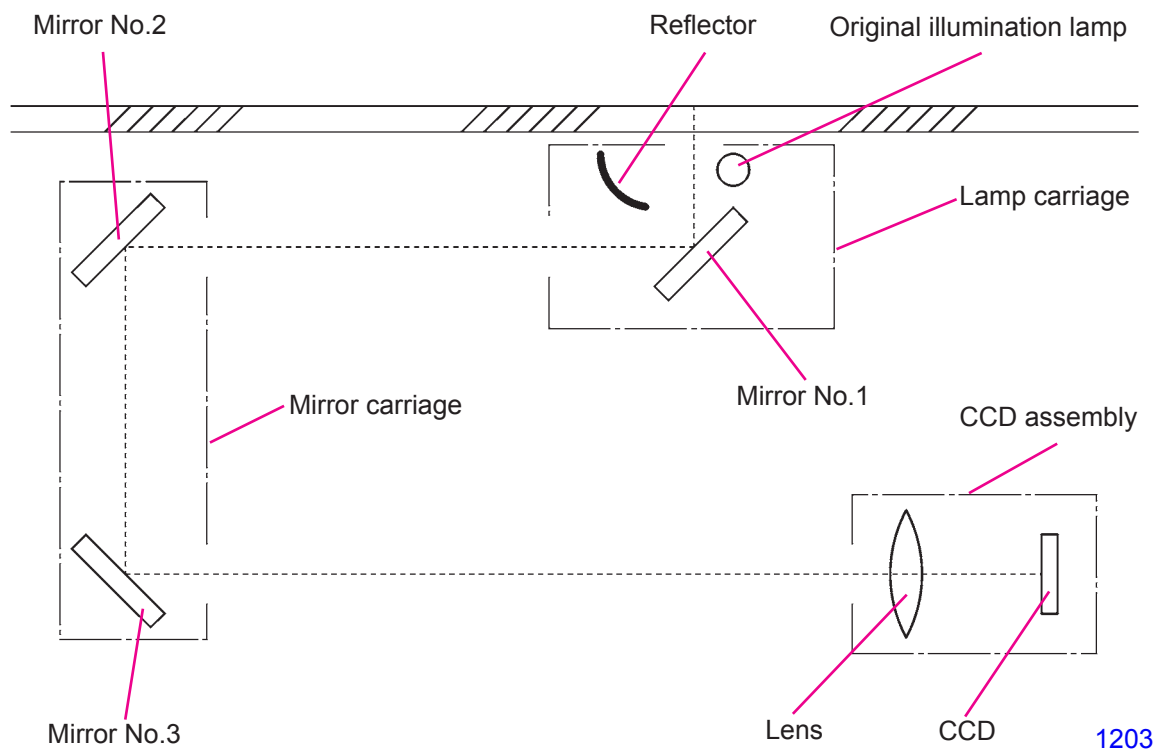
The two carriages are driven by FB Read pulse motor via Wire spool pulley and wire. The wire is synchronized between the front and rear to slide the two carriage straight without skewing.

The drive of the FB Read pulse motor is transferred to the front and rear Wire spool pulleys via Timing belts 1 and 2 and two speed reduction pulleys to slide the two carriages.

The Pulley 1 and Pulley 2 of the Mirror carriage is hooked in a way so that the distance in which the Mirror carriage move is half the distance in which the Lamp carriage moves. This results in keeping the distance between the original and the CCD the same throughout the scanning process.

If this fixed distance between the original and the CCD changes during the scanning, the scanned image loses the focus and the image becomes unclear.



Drive system diagram**Optical system diagram**

2. Flatbed Initialization Movement

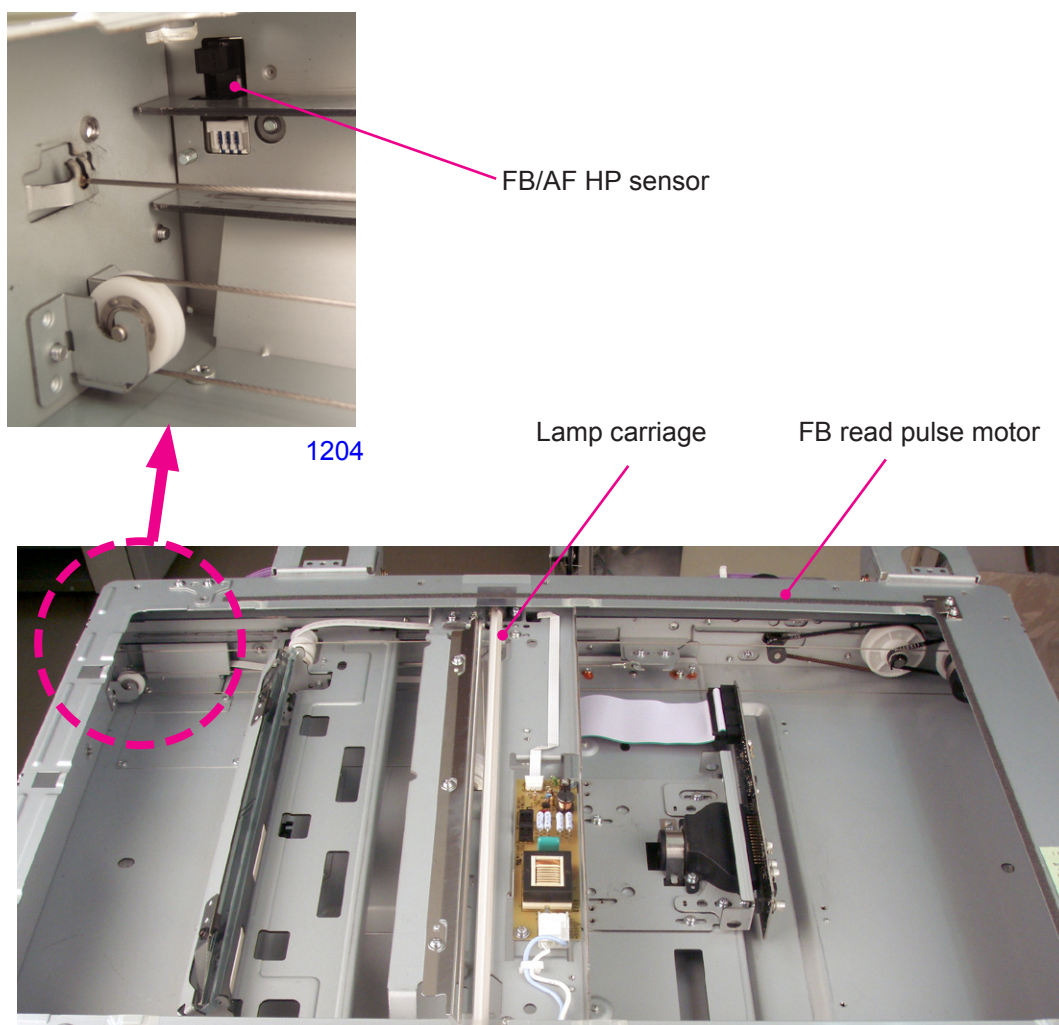
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Initialization is performed in the following situations to bring the Flatbed unit to the home position.

- When the machine power is switched ON.
- When recovering from the sleep mode (wake-up).
- When RESET button is pressed.

Initialization operation

- (1) If any of the above three action is taken when the FB/AF HP sensor is detecting the Lamp carriage, the FB read pulse motor rotates in the scanning direction in 15mm to move the Lamp carriage out of the sensor detection. Then the FB read pulse motor rotates in the return direction until the sensor detects the Lamp carriage again, and then keeps on moving until the Lamp carriage moves 10mm further from the detected position and stops. This is the home position of the Lamp carriage.
- (2) If any of the above three action is taken when the FB/AF HP sensor is not detecting the Lamp carriage, the FB read pulse motor rotates in the reverse direction to move the carriage back 10mm and stops. If the HP sensor detects the carriage during this movement, the initialization movement explained in the above paragraph (1) takes place. If the carriage was not detected during the 10mm reverse movement, the FB read pulse motor rotates in the forward direction to move the carriage 10mm in the scanning direction. Then the FB read pulse motor rotates in the reverse direction to bring the carriage back until the HP sensor detects the carriage and stops after the carriage moves 10mm from the detected position (home position).



The photograph shows the scanner covers and Stage glass removed.

1201

3. Stage-Glass Original Detection Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

The FB original detection sensor checks whether an original has been placed on the Stage glass. As soon as the Stage cover is closed halfway, blocking the light path to the Stage cover sensor, the FB original detection sensor checks whether there is an original on the Stage glass.

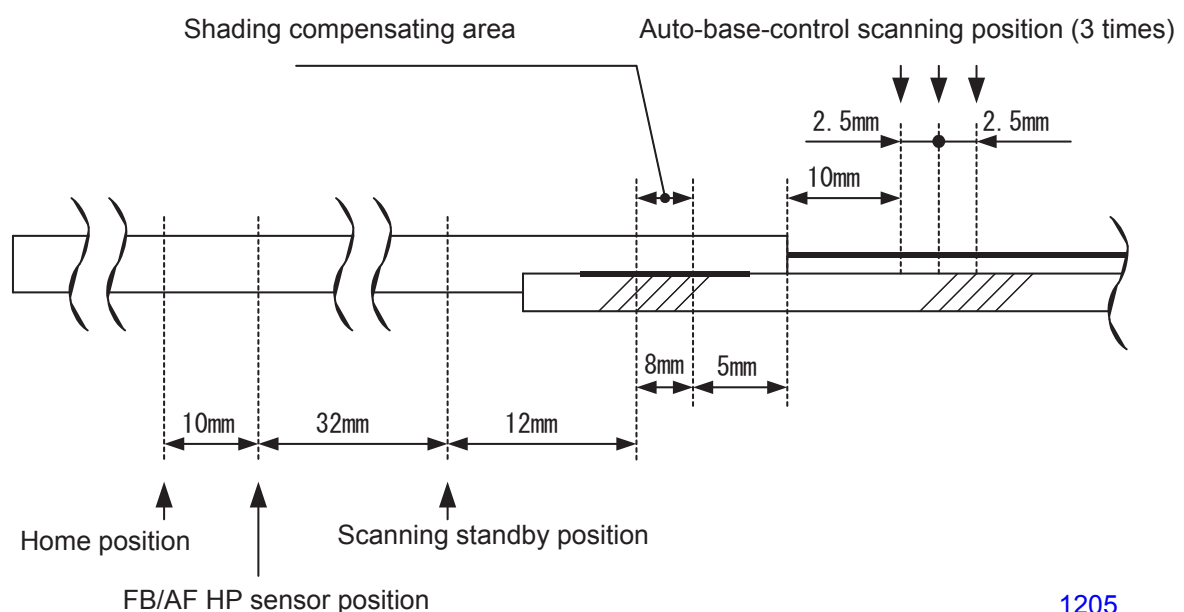
If the FB original detection sensor is receiving light (original present), when the Stage cover is half closed, the indication on the Operation panel changes to [Master Making] and the initial movement takes place. Then the offset adjustment, gain adjustment, shading-compensation and auto-base-control adjustment are performed. The Lamp carriage is then moved to the scanning standby position with the Scanner lamp turned on. If the Start key is pressed within 60 seconds, the scanning operation starts. If the Start key is not pressed within 60 seconds, the Scanner lamp turns off and the Lamp carriage returns back to the home position.

4. FB Auto-Base-Control

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

When an original is set and the Stage cover is closed, and if the original scanning density is set to AUTO, the auto-base-control, which is explained below, is conducted.

With an original set on the Scanner table and when the Stage cover sensor detects the Stage cover closed, or when the Start key is pressed, the FB read pulse motor rotates in the scanning direction. At a distance of 10mm after the Lamp carriage escapes from the FB/AF HP sensor, the Lamp carriage stops for a very short period and black shading compensation action takes place and then the Scanner lamp turns on. From the distance 44mm from the FB/AF HP sensor, white shading compensation action is made. Scanner moves for another 23mm (10mm inside of the leading edge of the original) and the first auto-base-control scanning is made. Two more auto-base-control scanning is made the each time the Lamp carriage moves 2.5mm in the scanning direction. (Total of 3 auto-base control scanning is made.) During the auto-base-control scanning, the CCD reads the color density of the original background. The FB read pulse motor then rotates in the reverse direction to bring the Lamp carriage back to the scanning standby position and starts the original scanning.



1205

5. FB Scanning Movement

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

When the Start key is pressed, the FB read pulse motor activates to move the Lamp carriage in the scanning direction. After the top 4 mm of the original is skipped, the read signal turns ON and the original scanning operation starts.

Once the scanning is made for a specific given distance, the Scanner lamp turns off to end the scanning operation.

The Lamp carriage returns back to the home position after the scanning operation is finished.

Disassembly

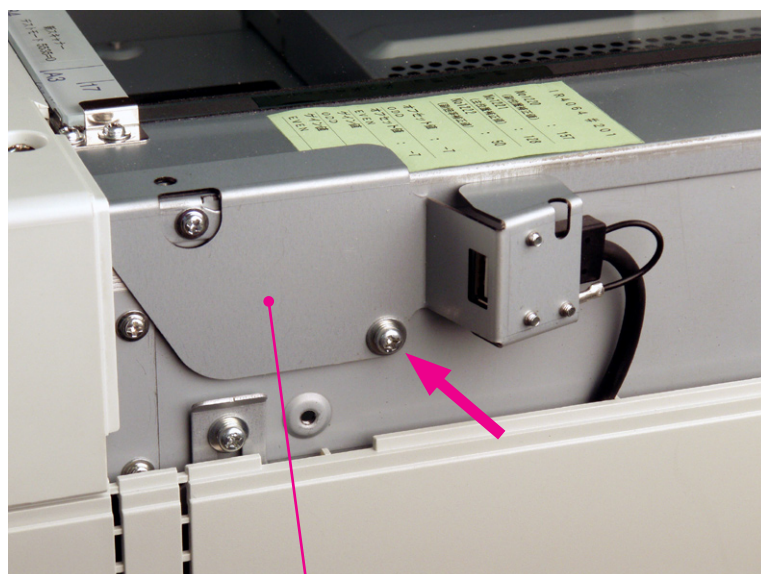
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

1. Removing the Scanner Unit

- (1) Switch OFF the machine power and remove the following covers.
 - Stage cover
 - Scanner cover (paper feed)
 - Scanner cover (rear)
 - Scanner cover (paper ejection)
 - Operation panel
 - Rear cover
- (2) Remove the following components.
 - USB connector bracket (M4 x 8 screw; 1 pc)
 - Stage cover sensor (M4 x 8 screw; 1 pc)
 - Flat cable mounting plate (M4 x 8 screw; 1 pc)
 - Two Hinge brackets (M4 x 8 screws; 2 pcs each)
- (3) Disconnect the Relay PCB connector.
- (4) Disconnect the FB read pulse motor connector.
- (5) Disconnect the Scanner wire harness (flat cable) connector from the Mechanical control PCB.
- (6) Remove screws (M4 x 8 screws; 6 pcs) securing the Scanner bracket onto the machine, and lift and remove the Scanner unit. (This is approximately 10 kilogram precision component. Handle with care.)

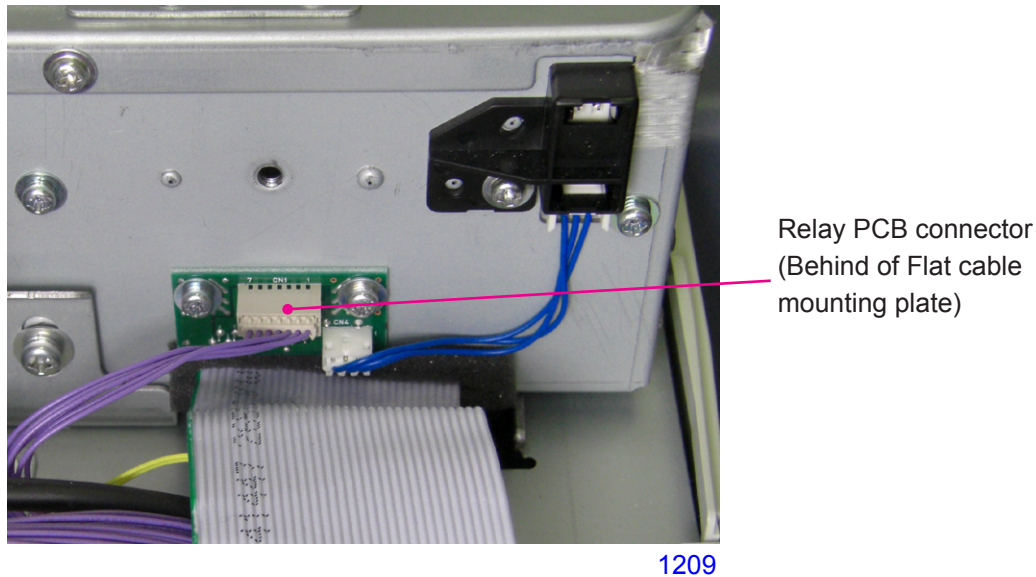
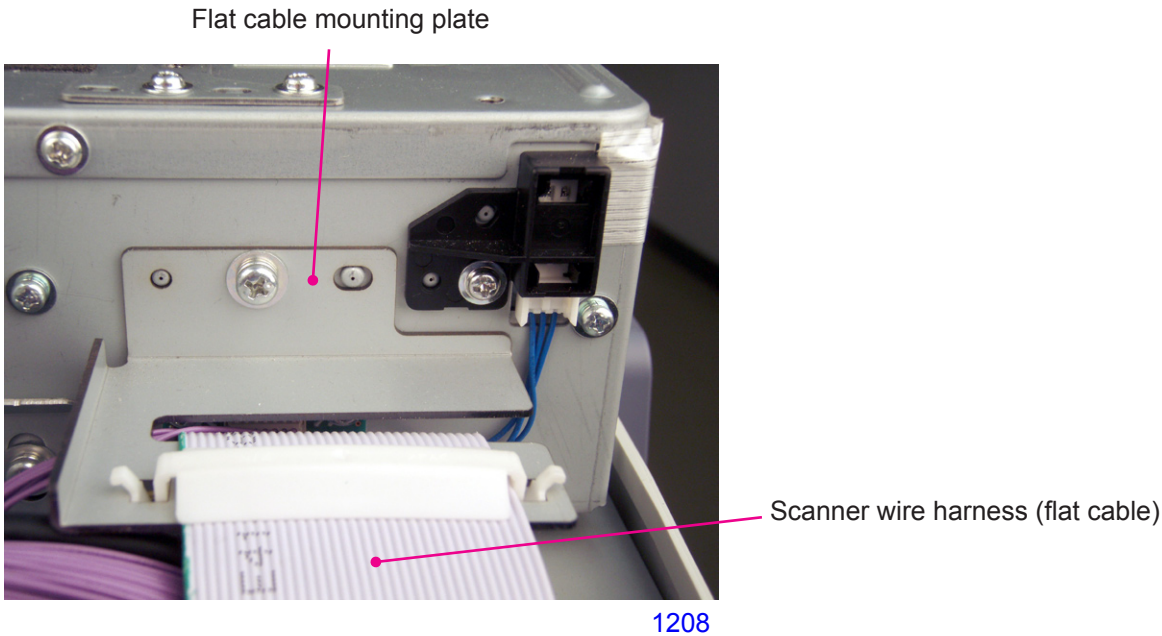
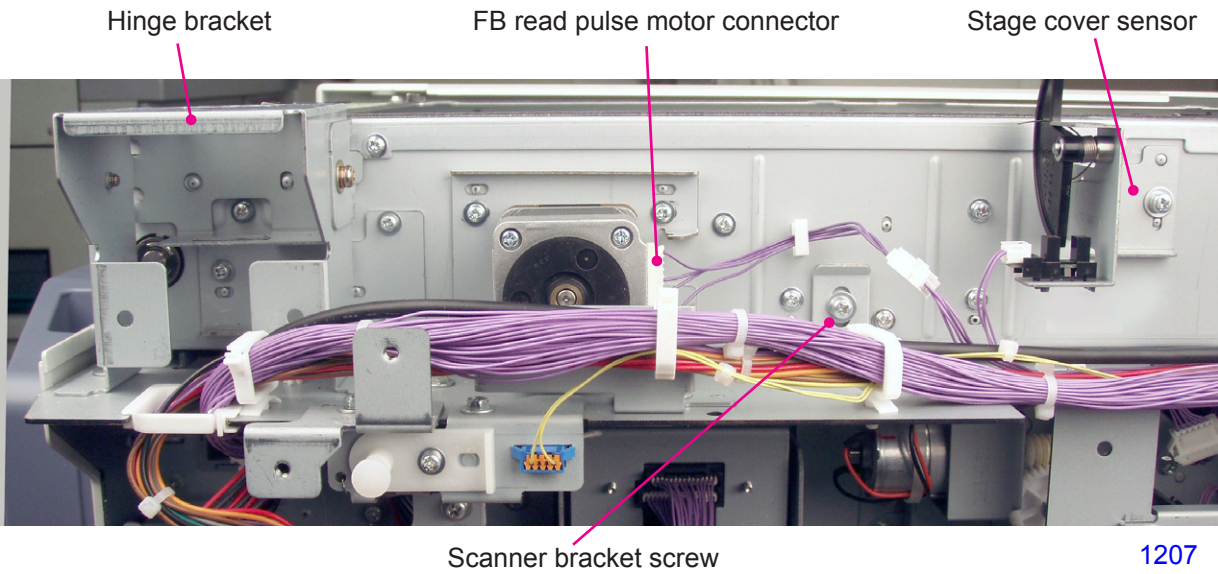
< Precautions in Assembly >

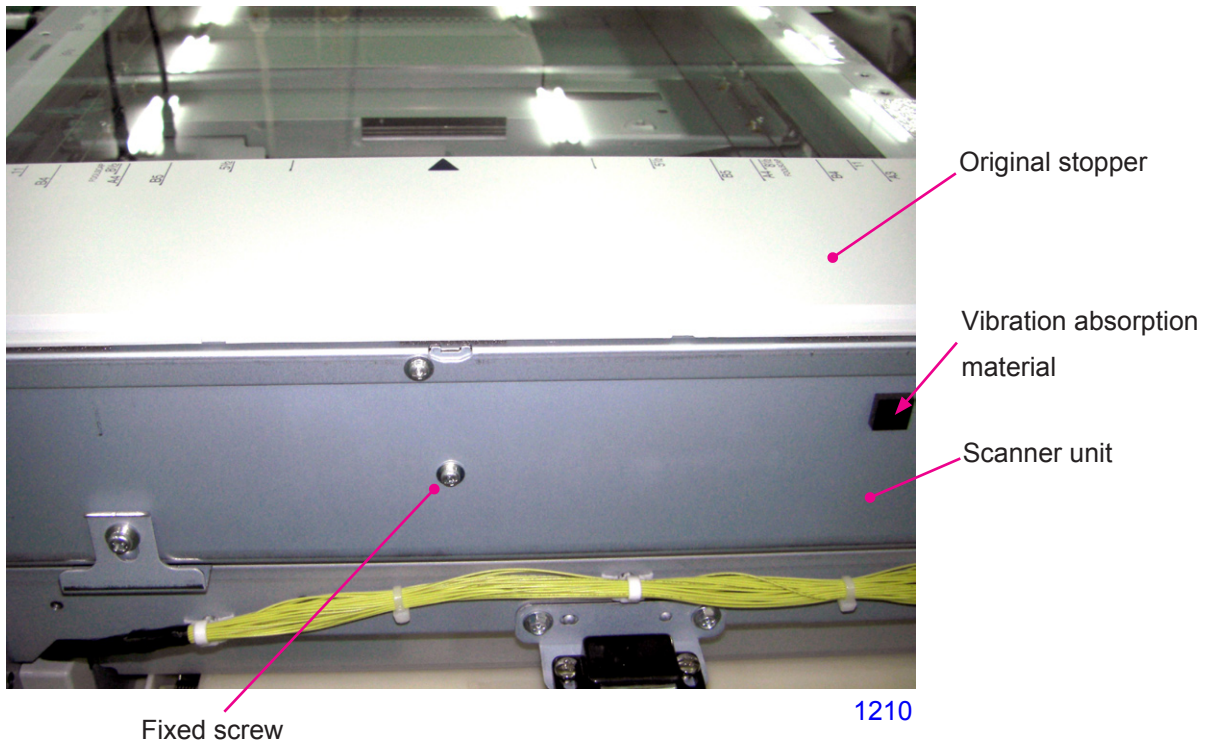
- (1) When replacing with a new Scanner unit, make sure to remove the large screw which fixes the Mirror carriage onto the Scanner unit for the transportation purpose.
- (2) Before mounting the new Scanner unit on the machine, memo down the information label located on the top right of the Scanner unit which lists the necessary Test Mode settings for the Scanner unit.



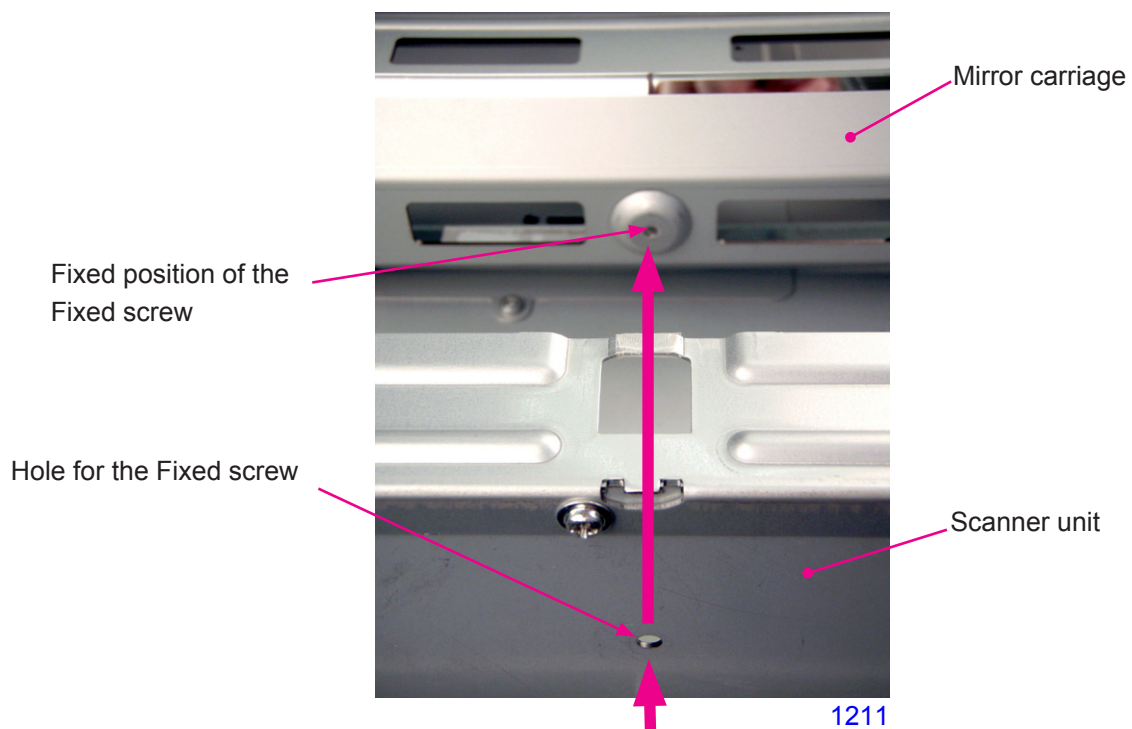
USB connector bracket

1206





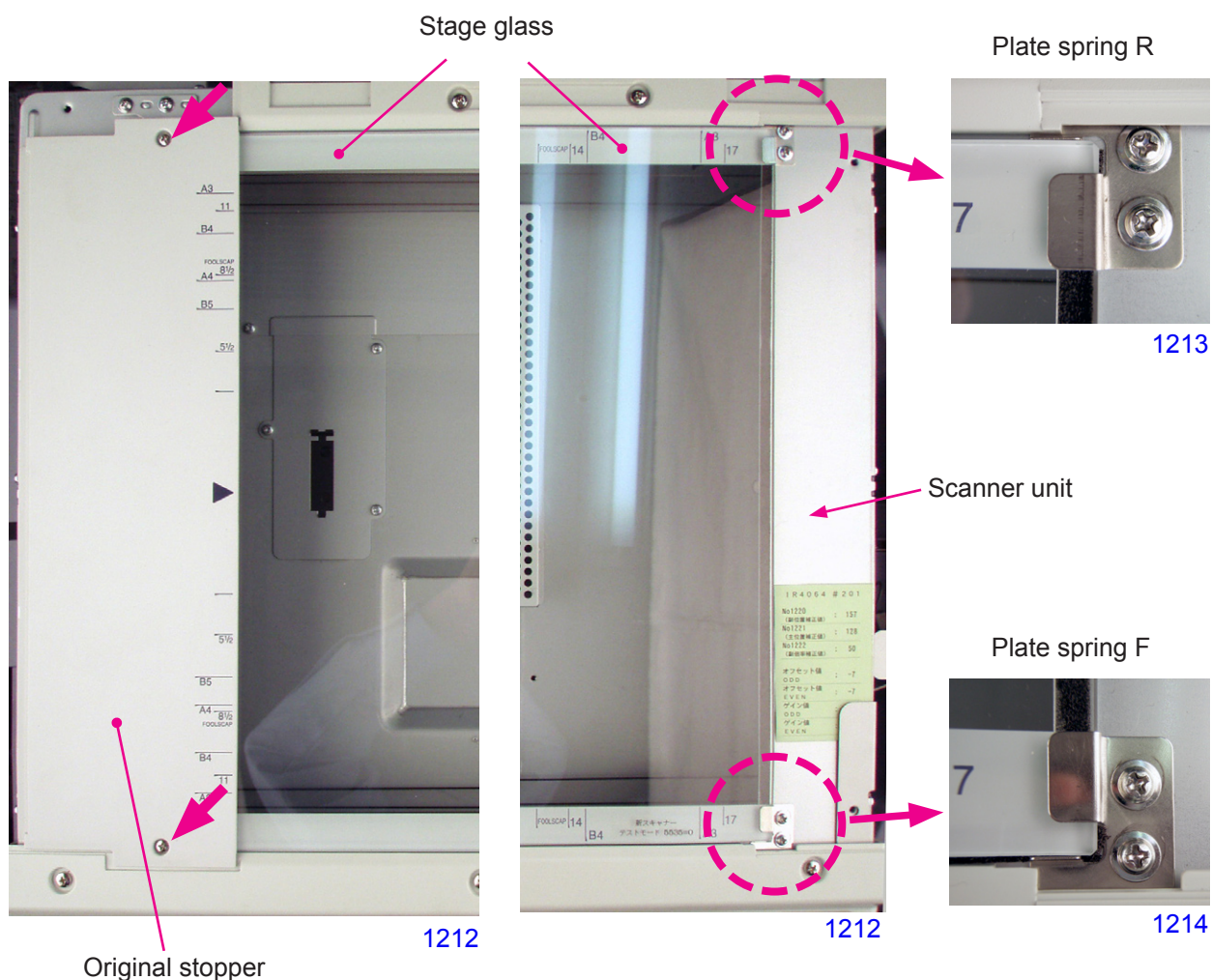
When replacing with a new Scanner unit, make sure to remove the large screw which fixes the Mirror carriage on the Scanner unit for the transportation purpose.



2. Removing the Stage Glass

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the following covers.
 - Stage cover
 - Scanner cover (paper feed)
 - Scanner cover (rear)
 - Scanner cover (paper ejection)
- (2) Remove two Shoulder screws and remove the Original stopper.
- (3) Remove the Plate springs F & R by removing screws (M3 x 6 screws; 2 pcs each).
- (4) Lift and remove the Stage glass.



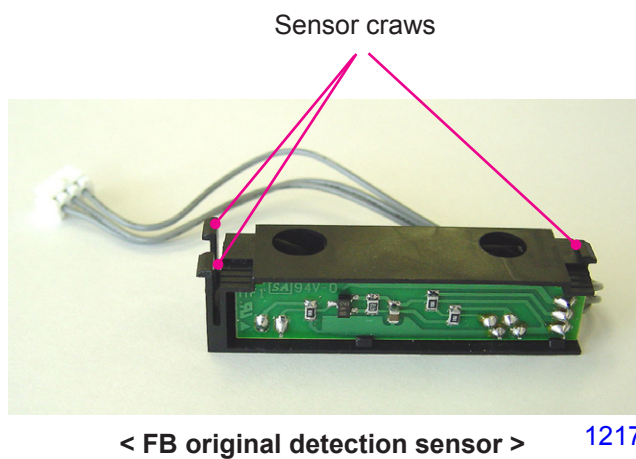
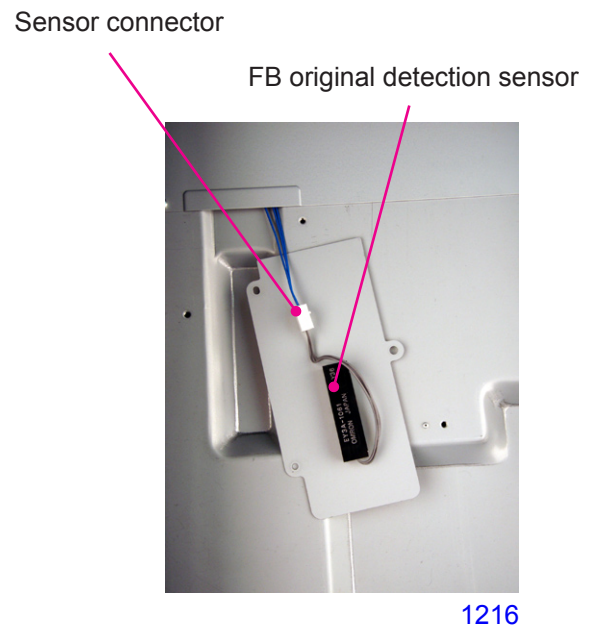
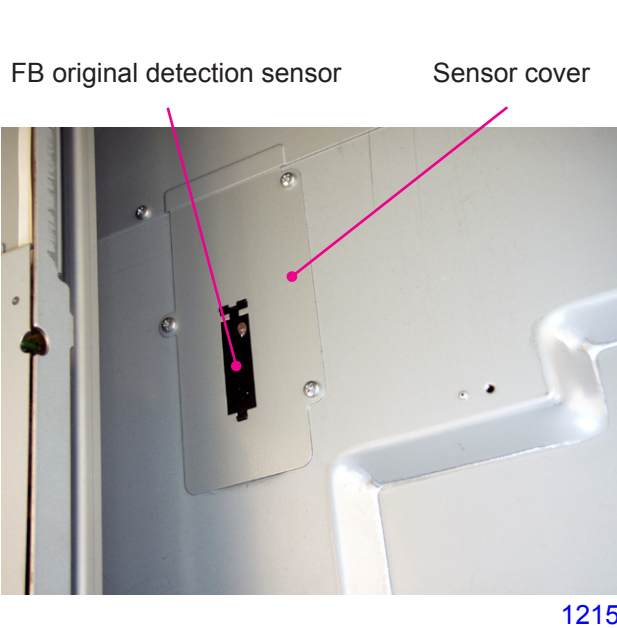
< Stage-glass installation procedure >

- (1) Put the Stage glass on the Scanner unit.
- (2) Install the Original stopper.
- (3) Push and slide the Stage glass against the Original stopper.
- (4) Install the Plate springs F & R, pushing tightly against the Stage glass, and secure with screws.
- (5) Reinstall the covers.

3. Removing the FB Original Detection Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

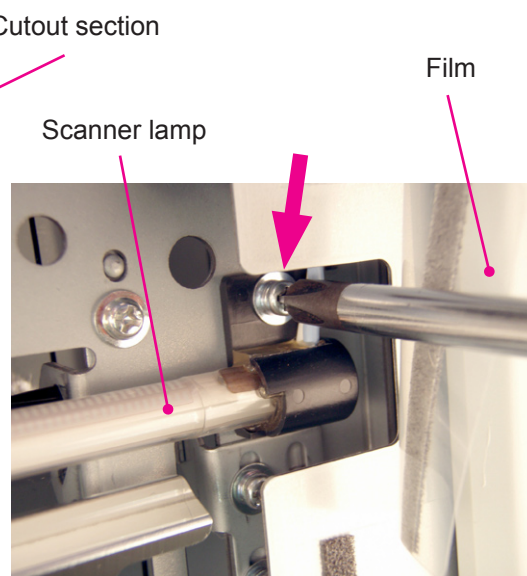
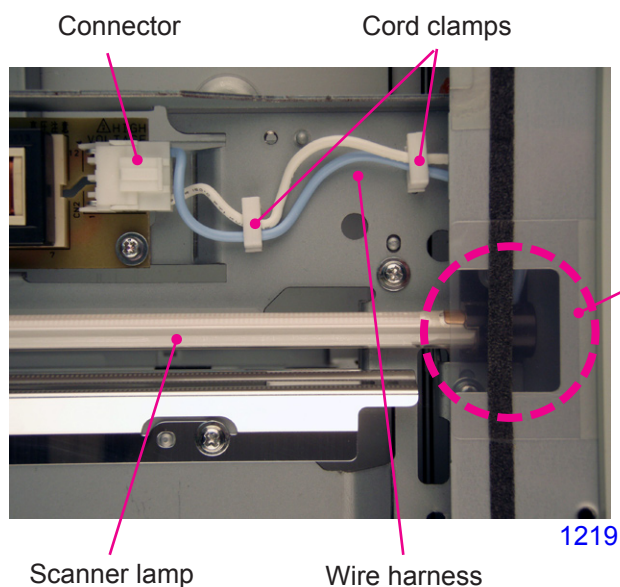
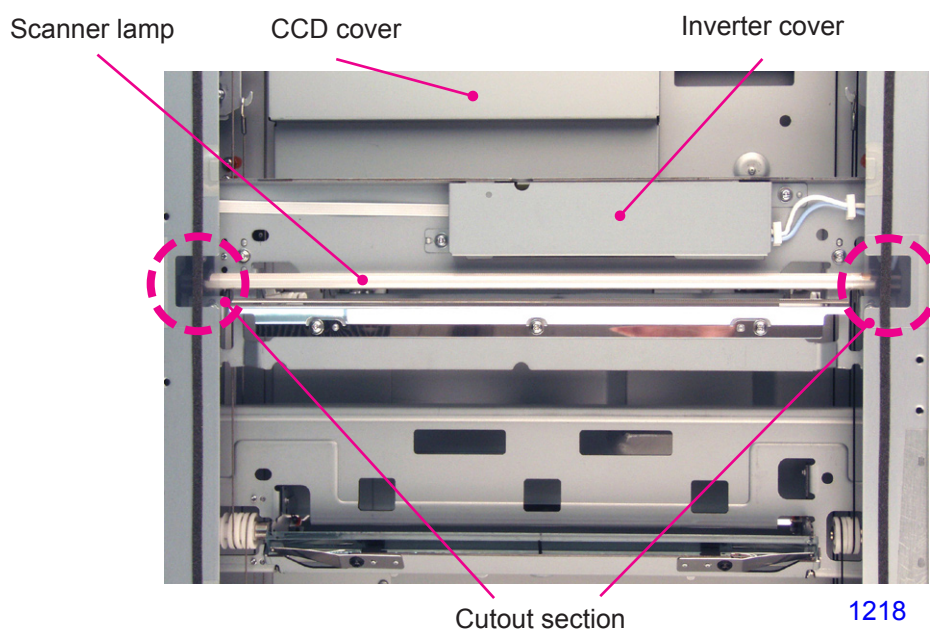
- (1) Switch OFF the machine power and remove the Stage glass.
- (2) Remove screws (M3 x 6 screws; 3 pcs), lift the Sensor cover, disconnect the sensor connector, and remove the Sensor cover with the FB original detection sensor attached.
- (3) Disengage the claws (3 locations) on the FB original detection sensor from the Sensor cover to remove the FB original detection sensor.



4. Removing the Scanner Lamp

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Run Test Mode No.287 (scanner lamp replace positioning) and switch OFF the machine power.
- (2) Remove the Stage glass.
- (3) Remove screws (M3 x 6 screws; 2 pcs) and remove the Inverter cover.
- (4) Unhook the Wire harness to the Scanner lamp from the Cord clamps (2 locations), and disconnect the connector from the Inverter.
- (5) By lifting the Film on the cutout section of the Scanner unit, remove screws (M3 x 6 screw; 1 pc each) from the both sides, and remove the Scanner lamp.



5. Removing the CCD Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

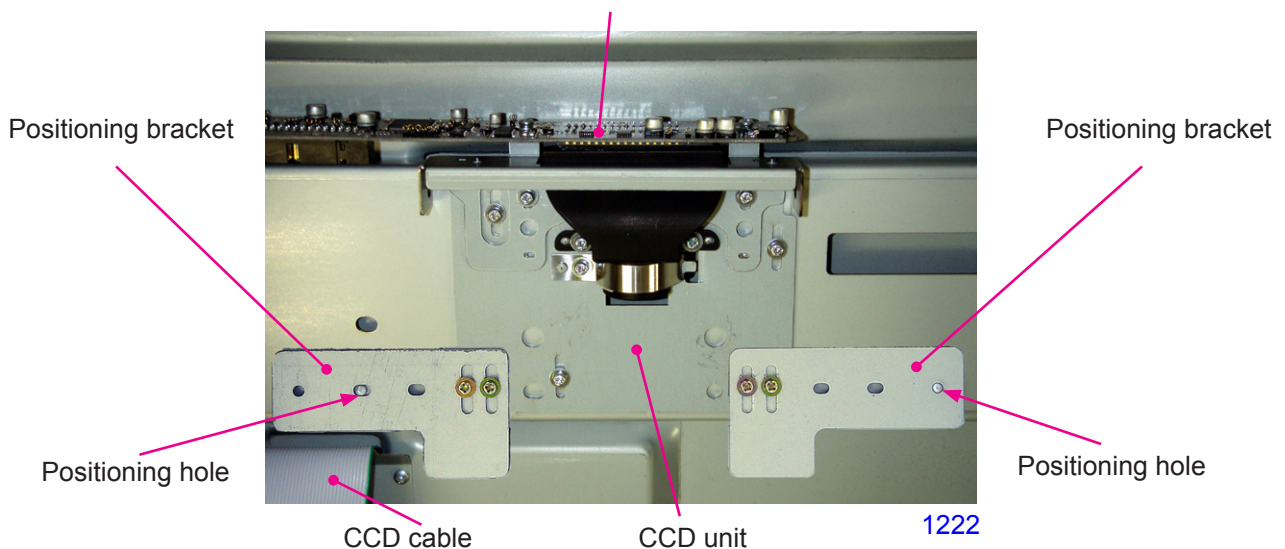
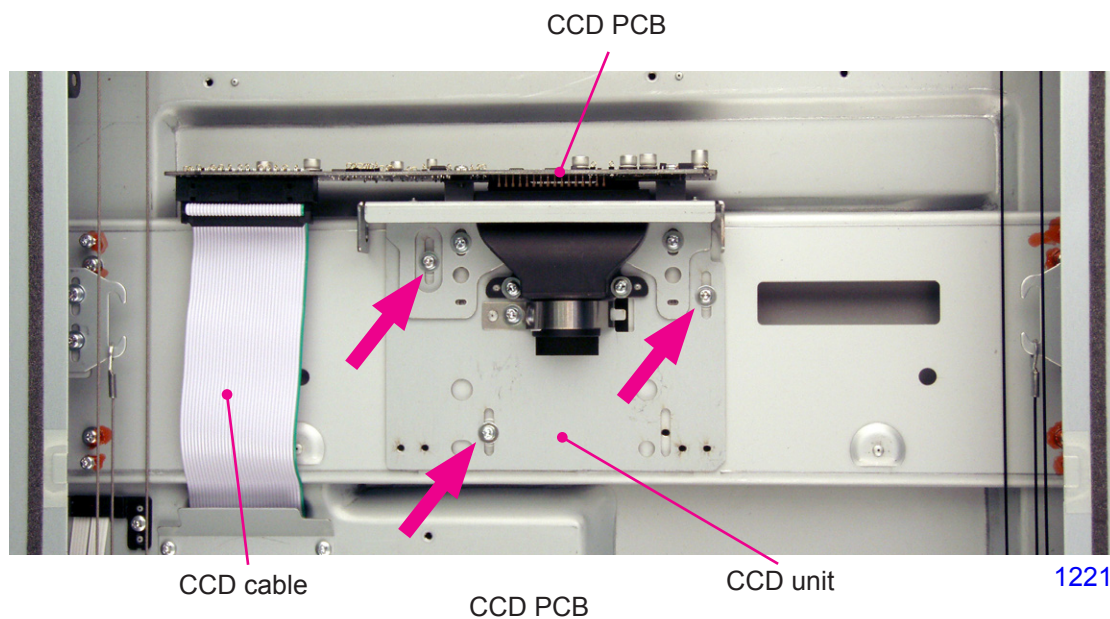
- (1) Switch OFF the machine power and remove the Stage glass.
- (2) Remove screws (M3 x 6 screws; 4 pcs) and remove the CCD cover.
- (3) Disconnect the CCD cable from the CCD PCB while supporting the PCB firmly by hand.
- (4) Remove screws (M3 x 6 screws; 3 pcs) and remove the CCD unit.

< CCD Unit Installation Procedure >

- (1) The replacement CCD unit is pre-adjusted at the factory with the Positioning brackets attached on the left and right of the unit for a correct positioning. Therefore, fit the holes on the Positioning brackets into the positioning pins on the Scanner unit, and secure the CCD unit in place using three screws.
- (2) After the CCD unit is firmly screwed onto the scanner unit, unscrew and remove the Positioning brackets off the left and right of the CCD unit.
- (3) Connect the CCD cable onto the CCD PCB while supporting the PCB firmly by hand.

< Precautions in Assembly >

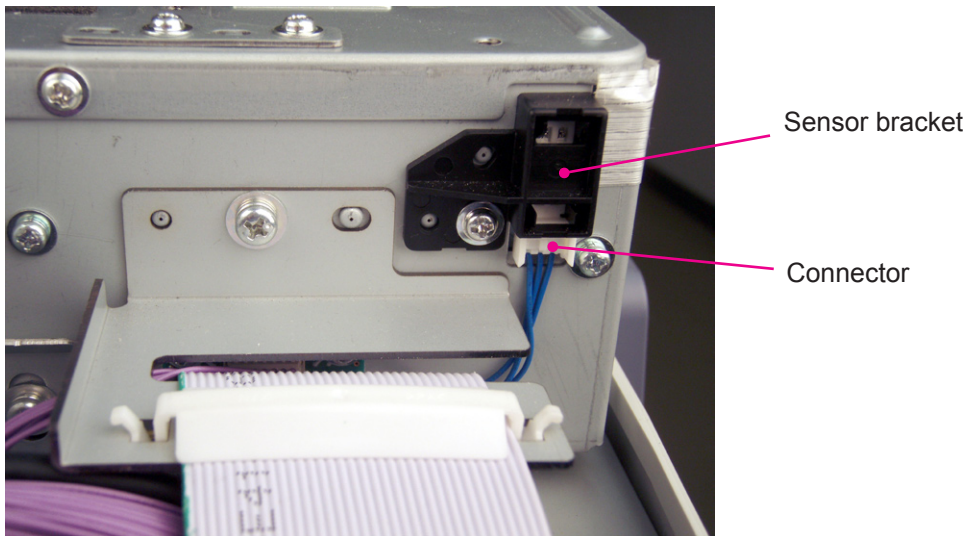
To prevent damages to the CCD PCB, firmly support the PCB by hand while connecting or disconnecting the CCD cable to the PCB.



6. Removing the FB/AF HP Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Switch OFF the machine power and remove the Scanner cover (paper feed).
- (2) Remove the FB/AF HP sensor, together with the Sensor bracket, from the Scanner unit by removing screw (M3 x 6 screw; 1 pc), and disconnect the connector to the FB/AF HP sensor.
- (3) Disengage the claws on the FB/AF HP sensor from the Sensor bracket to remove the FB/AF HP sensor.



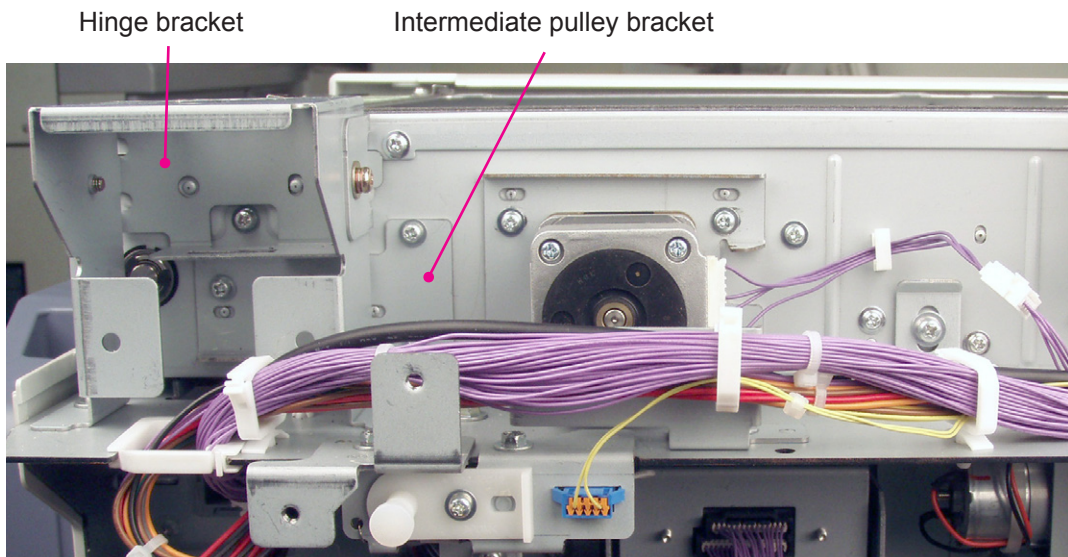
1208

7. Removing the FB Read Pulse Motor

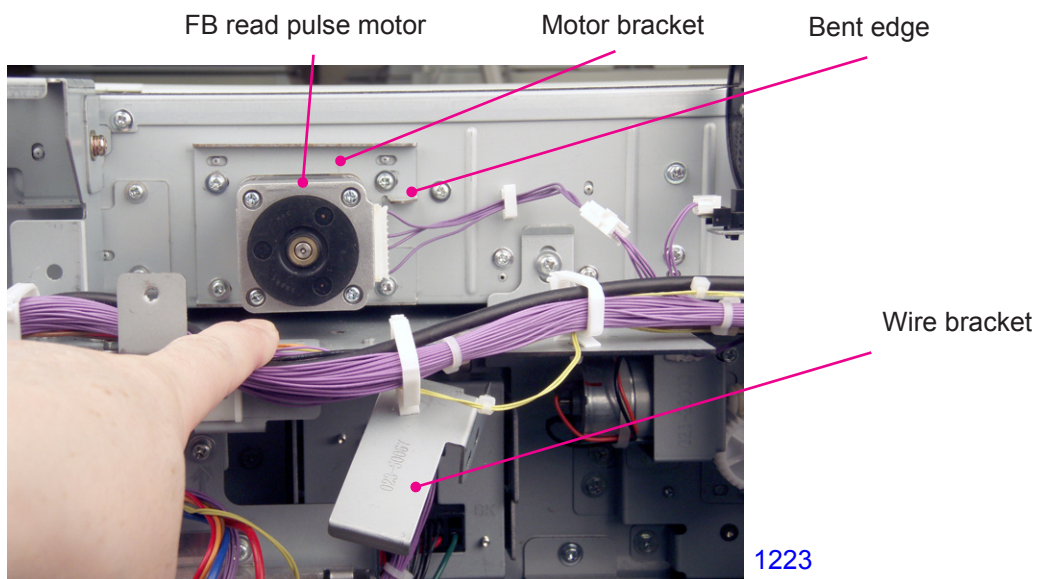
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Switch OFF the machine power and remove the Stage glass.
- (2) Remove the Wire bracket by removing a screw (M4 x 8 screw; 1 pc).
- (3) Remove the Mounting screws (M3 x 6 screws; 4 pcs) of the FB read pulse motor mounting bracket, unhook the Timing belt located inside the Scanner unit and remove the FB read pulse motor with the mounting bracket attached.
- (4) Remove the FB read pulse motor from the mounting bracket by removing screws (M3 x 6 screws; 2 pcs).

Refer to the next page for the assembly procedure.



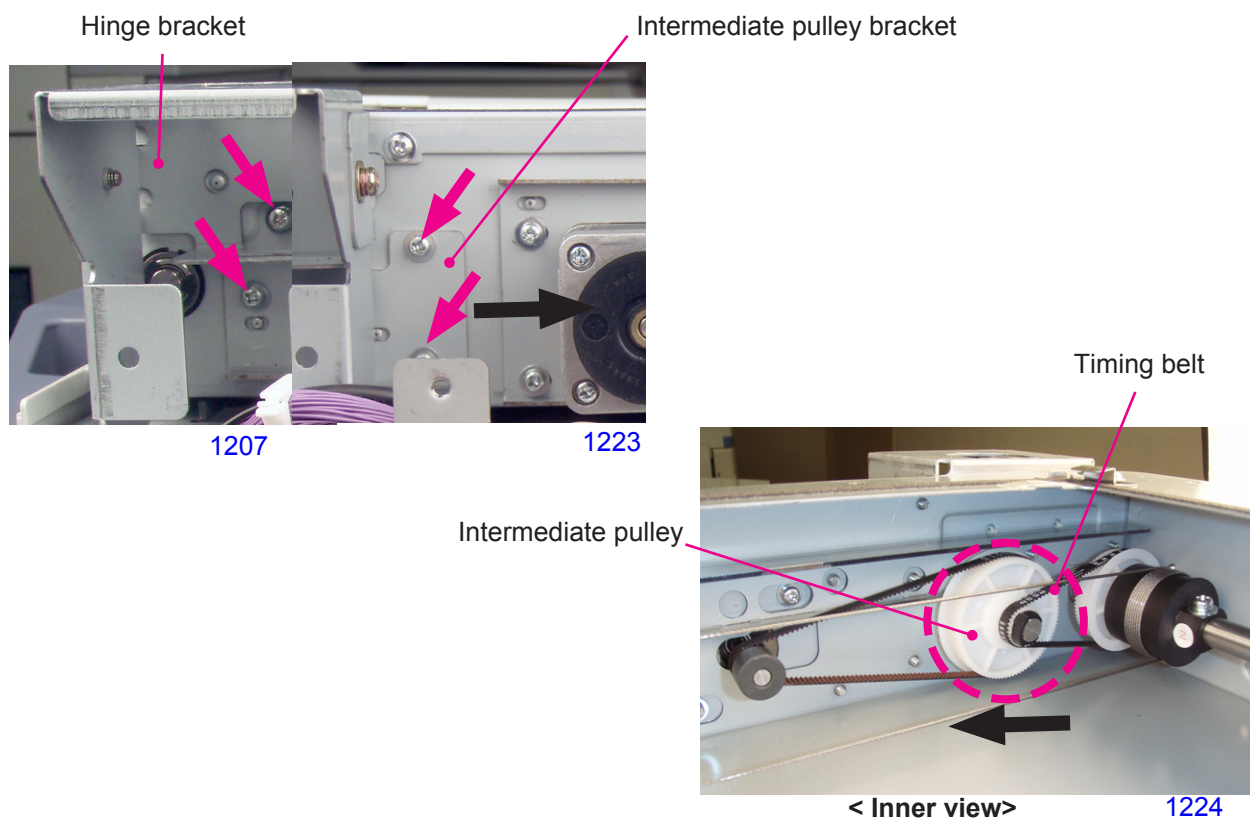
1207



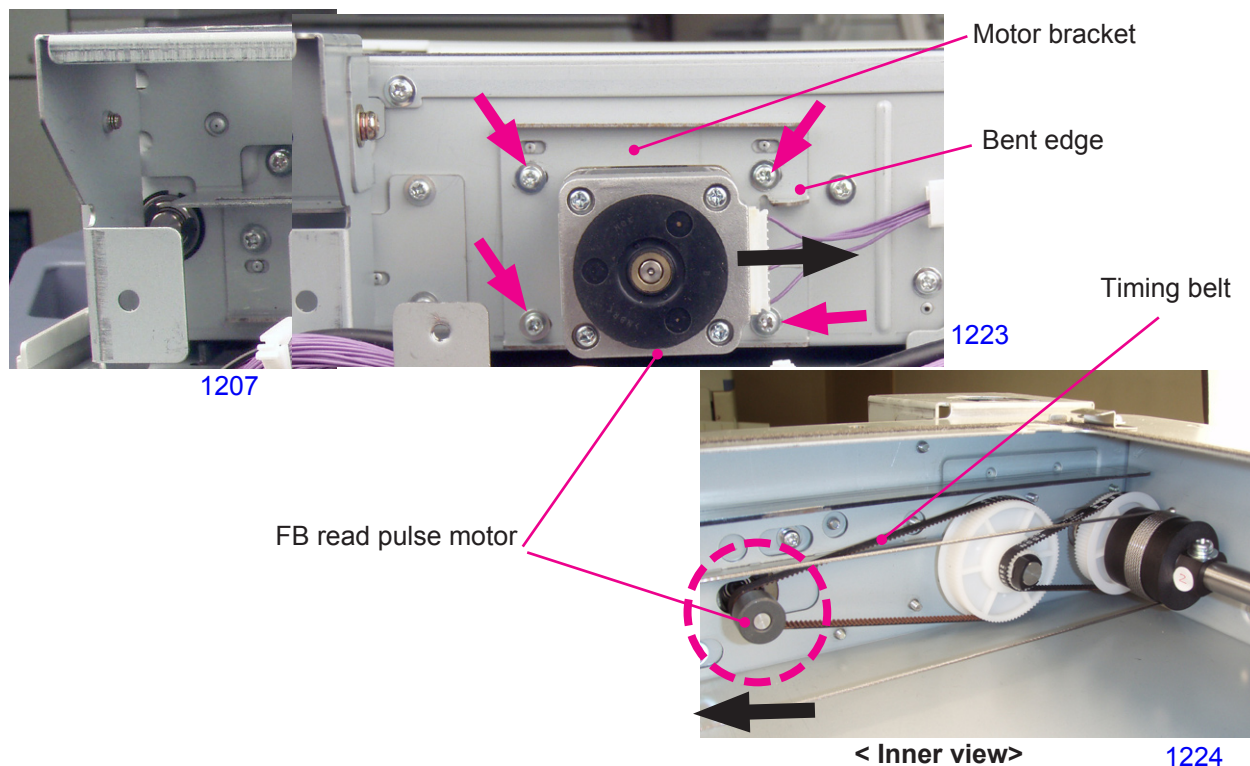
1223

< Assembly Procedure >

- (1) Loosen 4 screws indicated by 4 red arrows, then pull the Intermediate pulley bracket in the direction indicated by black arrows on the photographs below to apply adequate tension on the Timing belt, then tighten the 4 screws.



- (2) Loosen 4 screws indicated by 4 red arrows, then pull the Motor bracket in the direction indicated by black arrows on the photographs below to apply adequate tension on the Timing belt, then tighten the 4 screws.



Adjustment

1. FB Read Pulse Motor Speed Adjustment (Image Elongation & Shrinkage in Scanning)

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Set A3-size papers on the Paper feed tray and place Test Chart No.11 on the Stage glass. Make a master and print.
- (2) Lay the printed paper on top of the test chart original to check that the image elongation and shrinkage. Confirm that the elongation or the shrinkage is within plus/minus 1.4% compared from the top to the 350mm line of the test chart original.
- (3) If the elongation or shrinkage is over the specified range, make an adjustment using Test Mode No. 382 (FB Scanning Speed Adjustment).

<CAUTION>

Make sure that master-making elongation/shrinkage adjustment is already made prior to this scanning adjustment.>

2. FB Scan Start Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Set A3-size papers on the paper feed tray and place Test Chart No.11 on the Stage glass. Make a master and print.
- (2) Check the prints and confirm that 4mm plus/minus 2mm of the scaled line on top of the test chart is erased on the prints (the scanning is omitted for this distance).
- (3) If the scanning start position is out of the specified range, make an adjustment using Test Mode No. 381 (FB Scan Start Position Adjustment).

3. FB Horizontal Scan Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Set A3-size papers on the paper feed tray and place Test Chart No.14 on the Stage glass. Make a master and print.
- (2) Look at the master made on the Print drum. Confirm that all the [e] images are made on the right and left of the master on the print drum.
- (3) If any of the [e] images are omitted, make an adjustment using Test Mode No. 380 (FB Horizontal Scan Position Adjustment).

MEMO

CHAPTER 13: AF SCANNING SECTION

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Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

1. AF Original Set Mechanism

When an original is set along the Original guide fence and against the Original stopper gate, the AF original detection sensor turns ON (receives light) and the Master-Making/Print indication on the Panel changes to [Master Making].

After a set length of time, the AF read pulse motor operates in the reverse direction, lowering the Pickup roller in the direction indicated by the arrow (Refer Fig. 1302 on next page) and lifts the Original stopper gate upward. (In this step, the one-way clutch incorporated between the Registration roller gear and Registration roller shaft prevents the registration roller from rotating.)

When the Pickup roller goes down and presses against the original, the Pickup roller and Original stripper roller rotate in the original transport direction, and a single piece of original is fed forward by the action of the Original stripper roller and the Original stripper pad. This turns ON the AF original registration sensor (light blocked), and the edge of the original is stopped by the Registration roller.

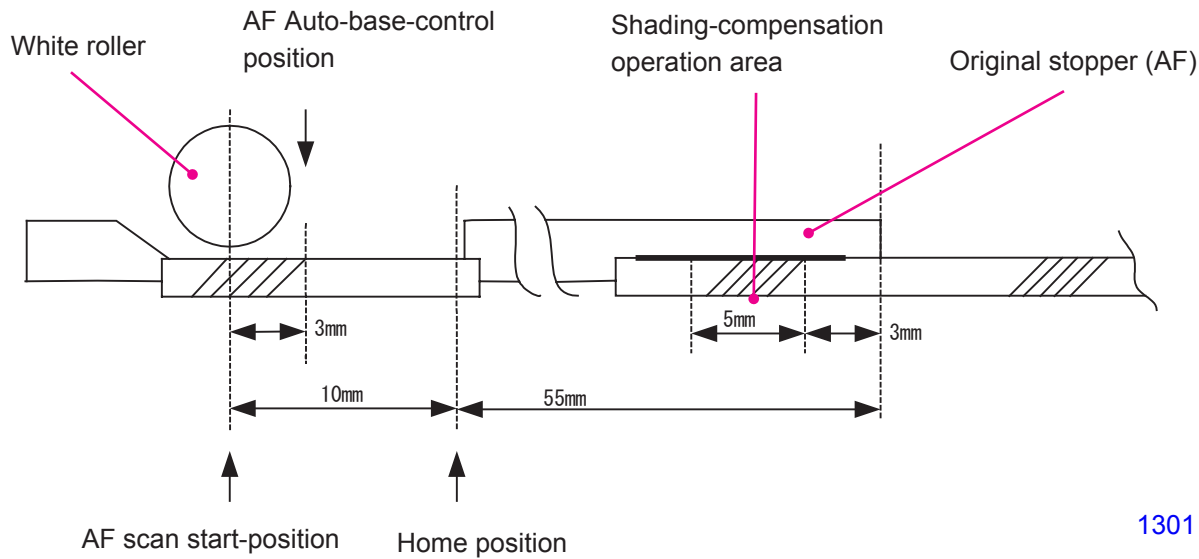
As the AF original registration sensor turns ON, after a preset length of time the AF read pulse motor starts rotating in the forward direction. This raises the Pickup roller and rotates the Registration roller, the two Read rollers, the White roller, and the Original ejection roller, all of which are linked by the Timing belt, in the feed direction.

The original stops temporarily when it moves 90 mm from the original set position.

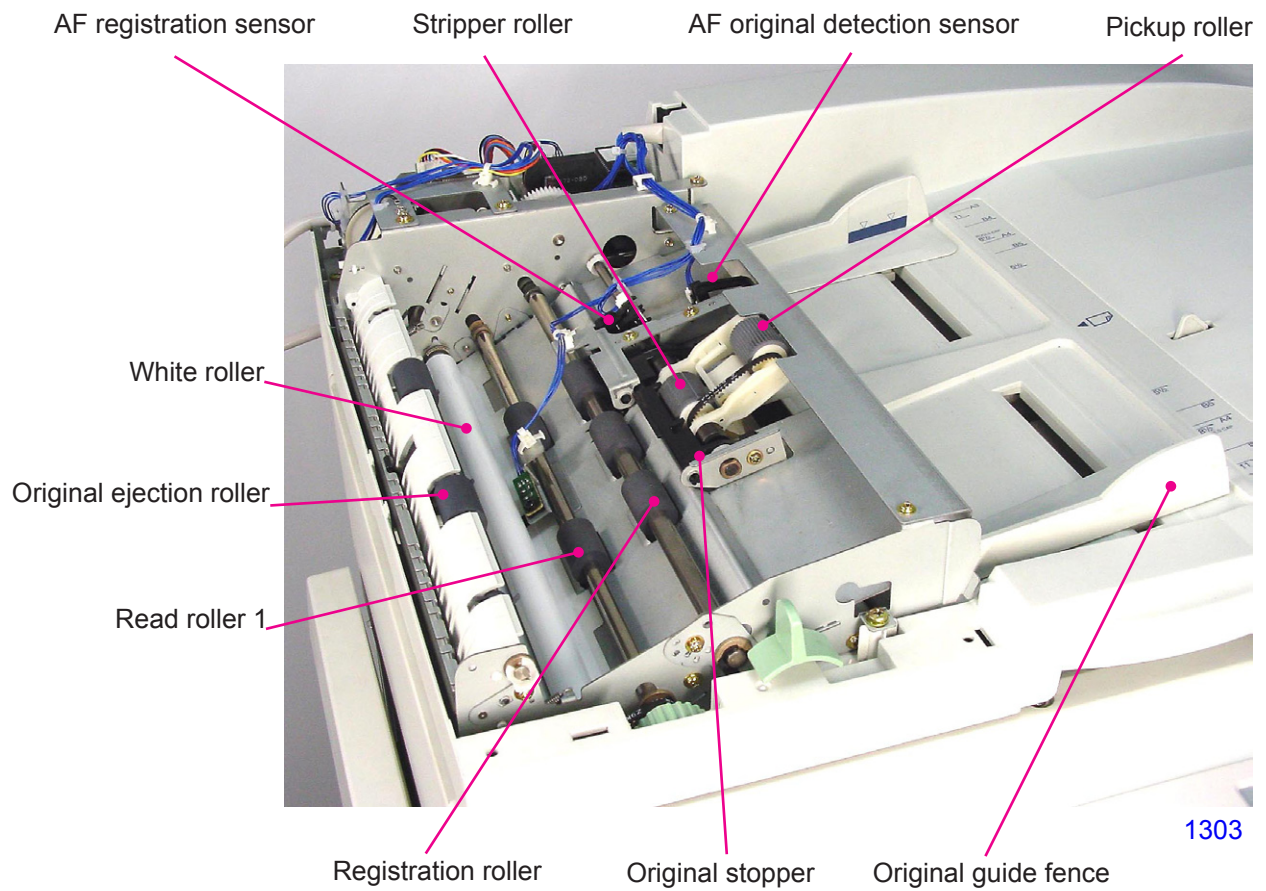
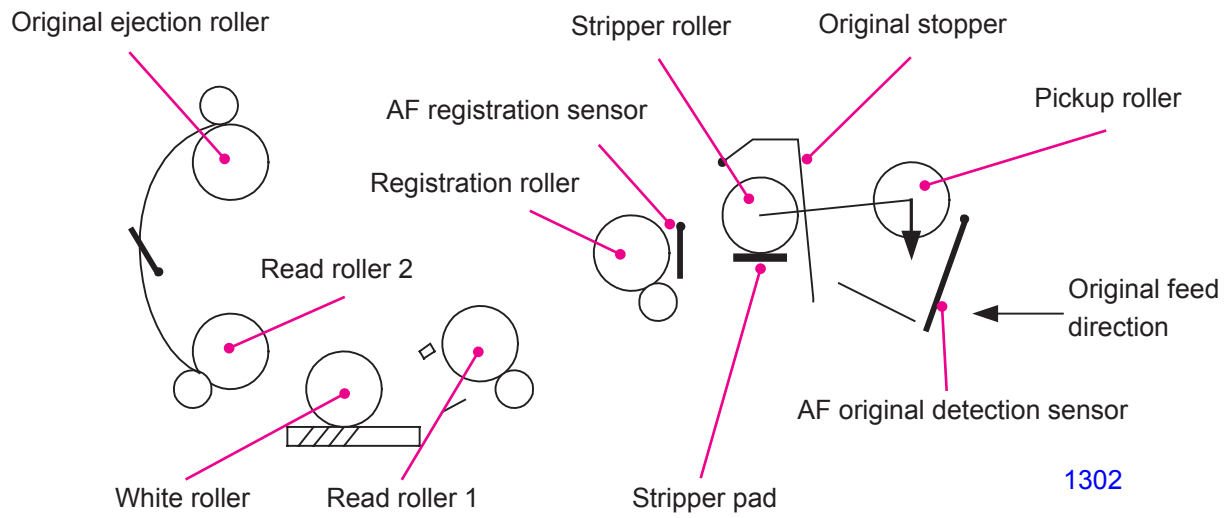
Meanwhile, when the AF original detection sensor turns ON, the Lamp carriage in the Scanner unit conducts a series of operations from Lamp illumination to shading compensation, then moves to the AF scan start-position and stops in the standby mode.

If the Start key is pressed within 60 seconds, the scanning operation starts immediately if the original scanning density is not set to AUTO. If it is set to AUTO, the Lamp carriage returns to the home position, and the shading-compensation and auto-base-control operations are performed before the scanning operation starts.

If the Start key is not pressed within 60 seconds, the Lamp turns off and the Lamp carriage returns to the home position. The shading compensation operation is done again when the Start key is pressed (as well as the auto-base-control operation if the original scanning density is set to AUTO), and the scanning operation begins.



1301



2. AF Original Scanning Mechanism (with Automatic Base Control)

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

(This operation only occurs when the original scanning density is set to [Auto].)

Once the AF original set operation is complete, pressing the Start key moves the Lamp carriage to the shading position. After performing the shading compensation operation, the Lamp carriage moves to the AF Auto-base-control position. Meanwhile, the AF read pulse motor rotates in the forward direction, rotating the Registration roller, the two Read rollers, the White roller, and the Original ejection roller all in the feed direction. After the AF read sensor turns ON (light blocked), the original is fed for a distance of 22.5 mm and stops. At this position (AF Auto-base-control position), the Image sensor scans the color density of the original background. Then, the FB read pulse motor moves the Lamp carriage back by 3 mm in the return direction to the AF scan start-position.

The AF read pulse motor immediately rotates in the forward direction and, at the same time, the read signal turns ON and the original scanning operation starts.

When a preset length of time elapses after the AF read sensor turns OFF (receives light) as the original passes out through the sensor, the read signal turns OFF. As soon as the scanning operation is completed, the AF read pulse motor operates at high speed to eject the the original.

When the AF original ejection sensor turns OFF, indicating that the original has passed out through the sensor, the original is sent for a preset distance and the AF read pulse motor stops. The Lamp carriage returns to the home position, and the AF read operation ends.

The Auto-base-control function is inactive in the Photo, Duo, and Dot-screening modes.

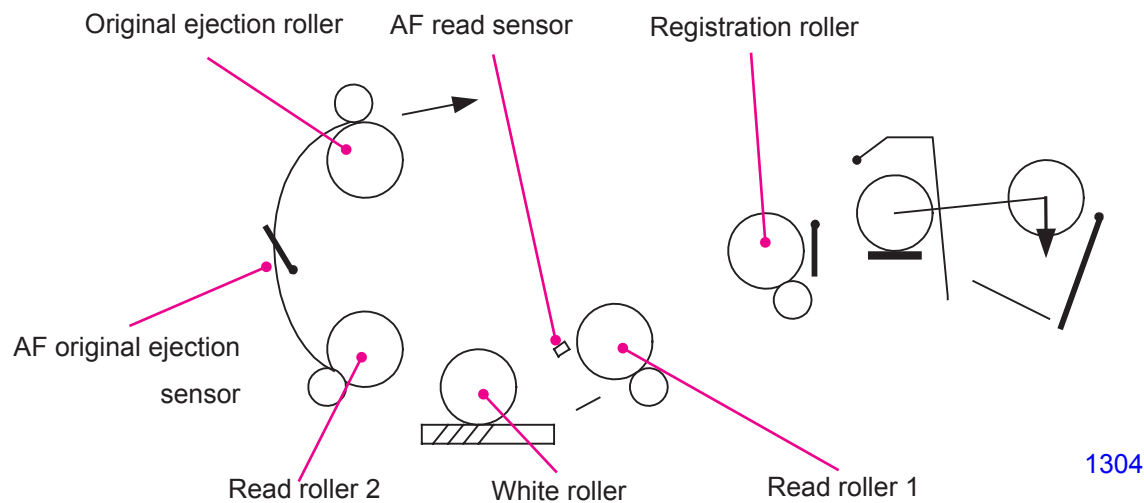
3. AF Original Scanning Mechanism

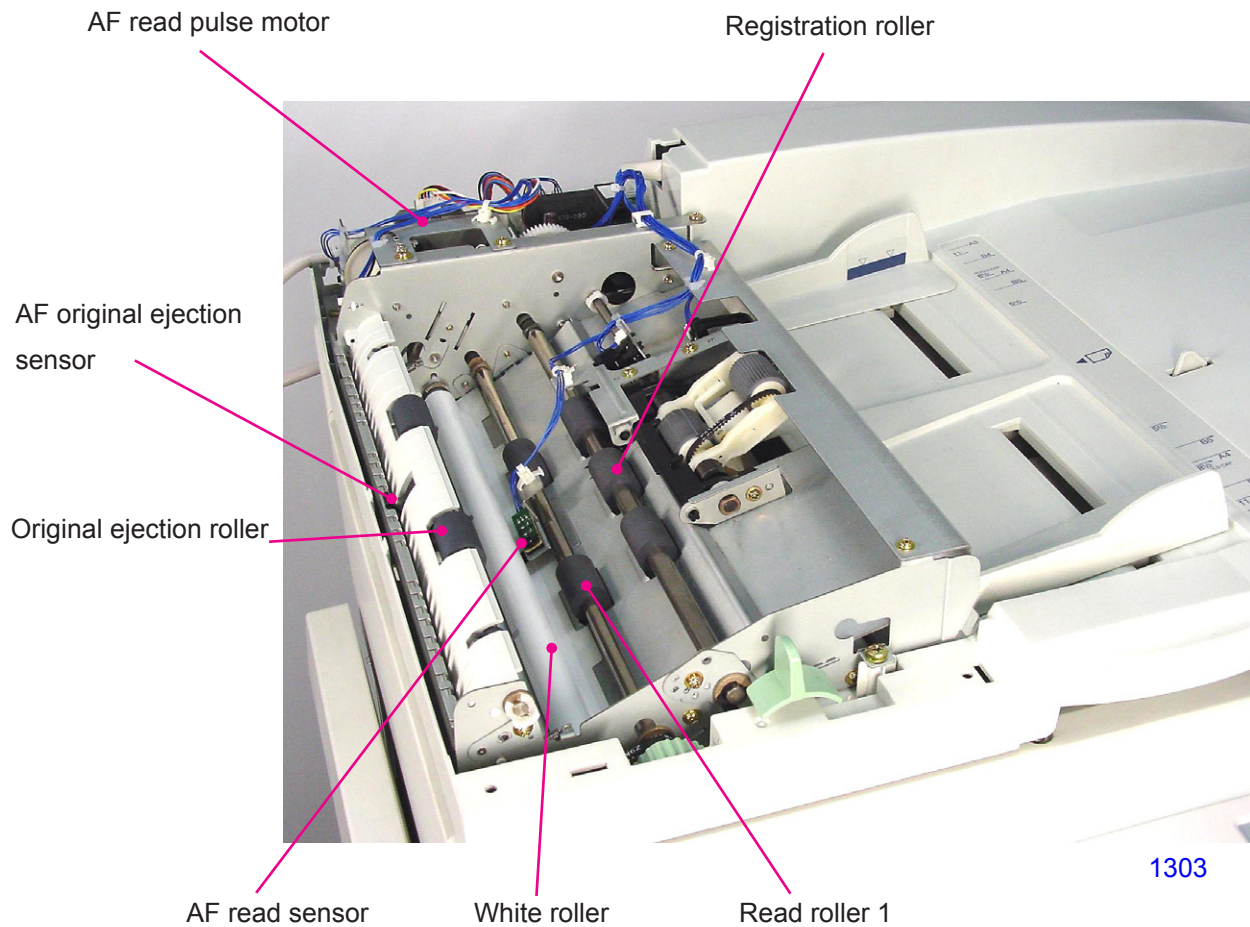
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

When the Start key is pressed after the AF original set operation is completed, the AF read pulse motor rotates in the forward direction, turning the Registration roller, the two Read rollers, the White roller, and the Paper ejection roller all in the feed direction. When the AF read sensor turns ON (light blocked), the original is sent for a distance of 25.5 mm, and the read signal turns ON and the original scanning operation starts. (The Pickup roller returns to the standby position.)

When a preset length of time elapses after the AF read sensor turns OFF (receives light) as the original passes out through the sensor, the read signal turns OFF. As soon as the scanning operation is completed, the AF read pulse motor operates at high speed to eject the the original.

When the AF original ejection sensor turns OFF, indicating that the original has passed out through the sensor, the original is sent for a preset distance and the AF read pulse motor stops. The Lamp carriage returns to the home position, and the AF read operation ends.





4. AF Original Size-Detection Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

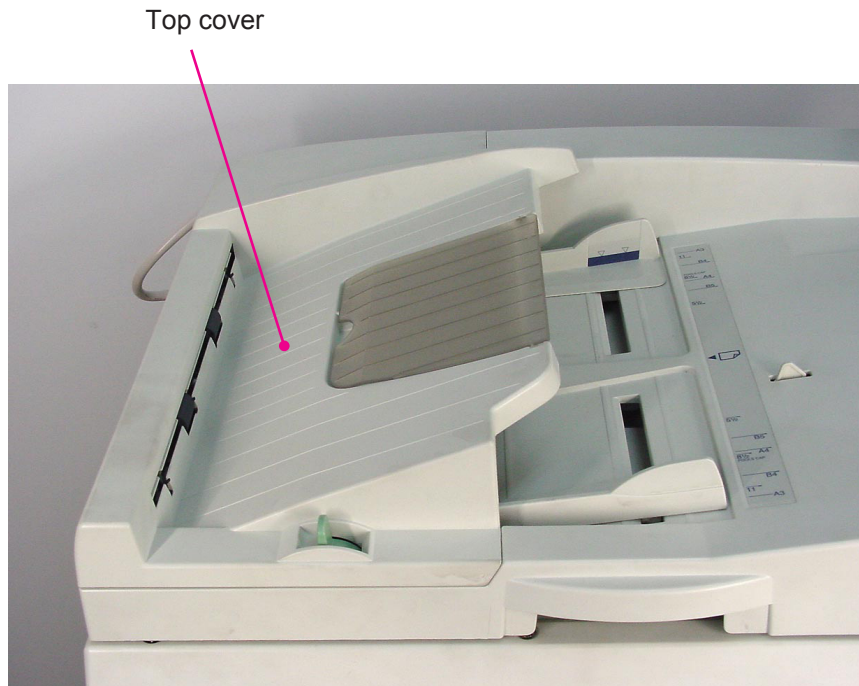
The width of the original is detected by the AF guide potentiometer linked to Original guide fences, which are aligned with the original. The length of the original is detected by AF original size sensor 1 and AF original size sensor 2.

Removal and Assembly

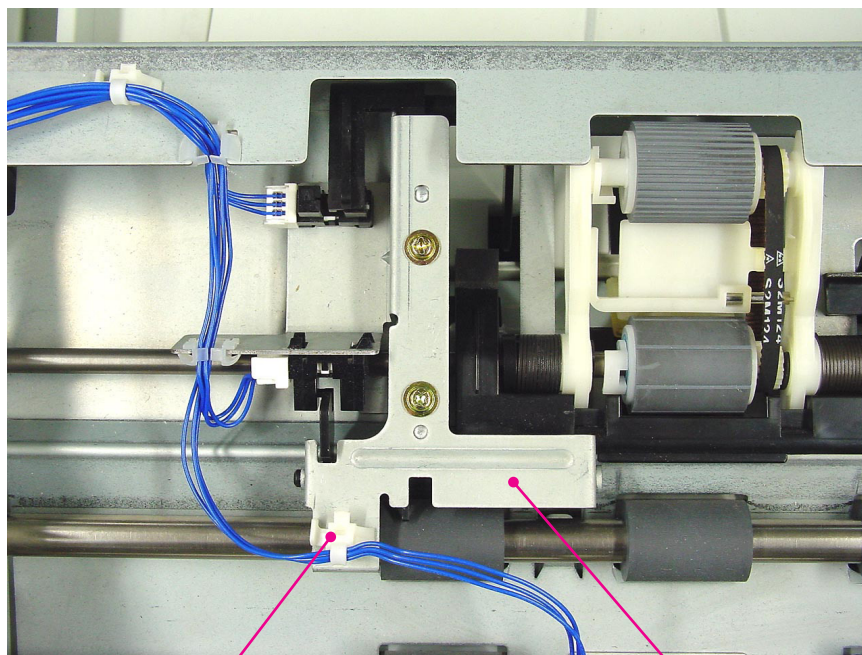
1. Removing the Original Feed Roller Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Remove the Top cover by loosening the screws (M4 x 6 screws; 3 pcs) on the surface of the Top cover and removing the screws (M4 x 10 screws; 2 pcs) from the underneath.
- (2) Disconnect the two connectors and the Reuse band, remove the screws (M3 x 4 screws; 2 pcs), and remove the Sensor bracket assembly.



1305



1306

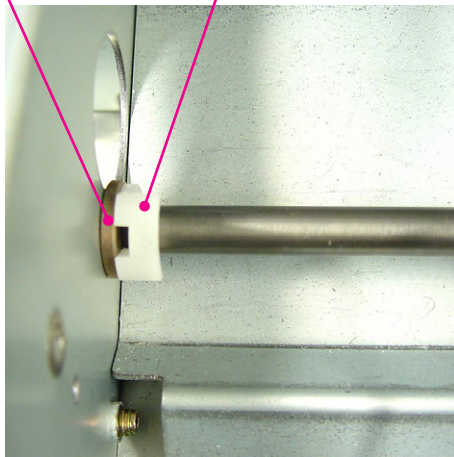
Reuse band

Sensor bracket assembly

- (3) Remove the Plastic clips from both sides, slide the Metal bushings toward the inside, and remove the Original feed roller assembly by passing the drive gear on the rear of the assembly through the hole on the side frame.

Metal bushing

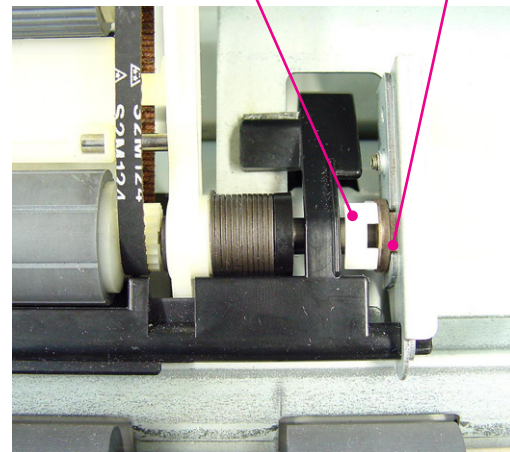
Plastic clip



1307

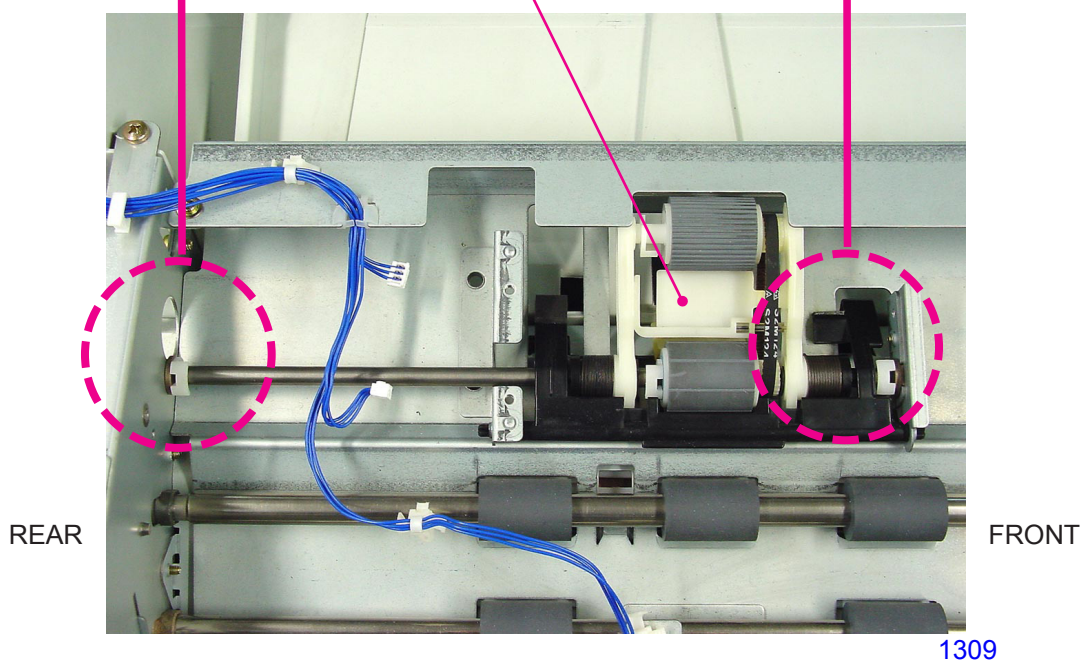
Plastic clip

Metal bushing

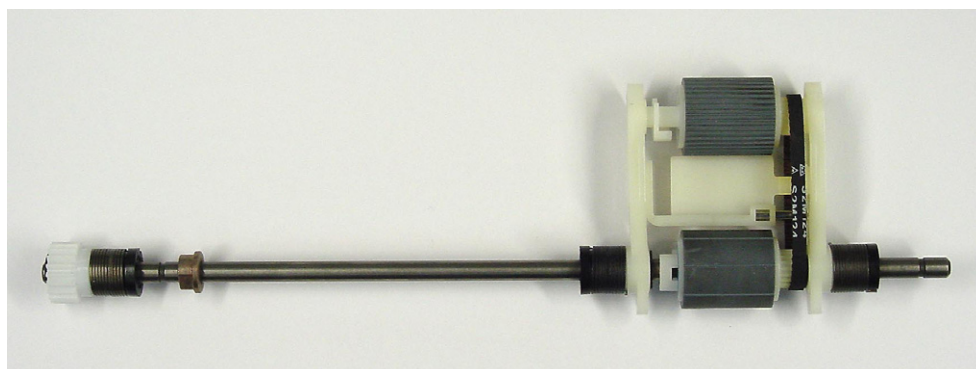


1308

Original feed roller assembly



1309



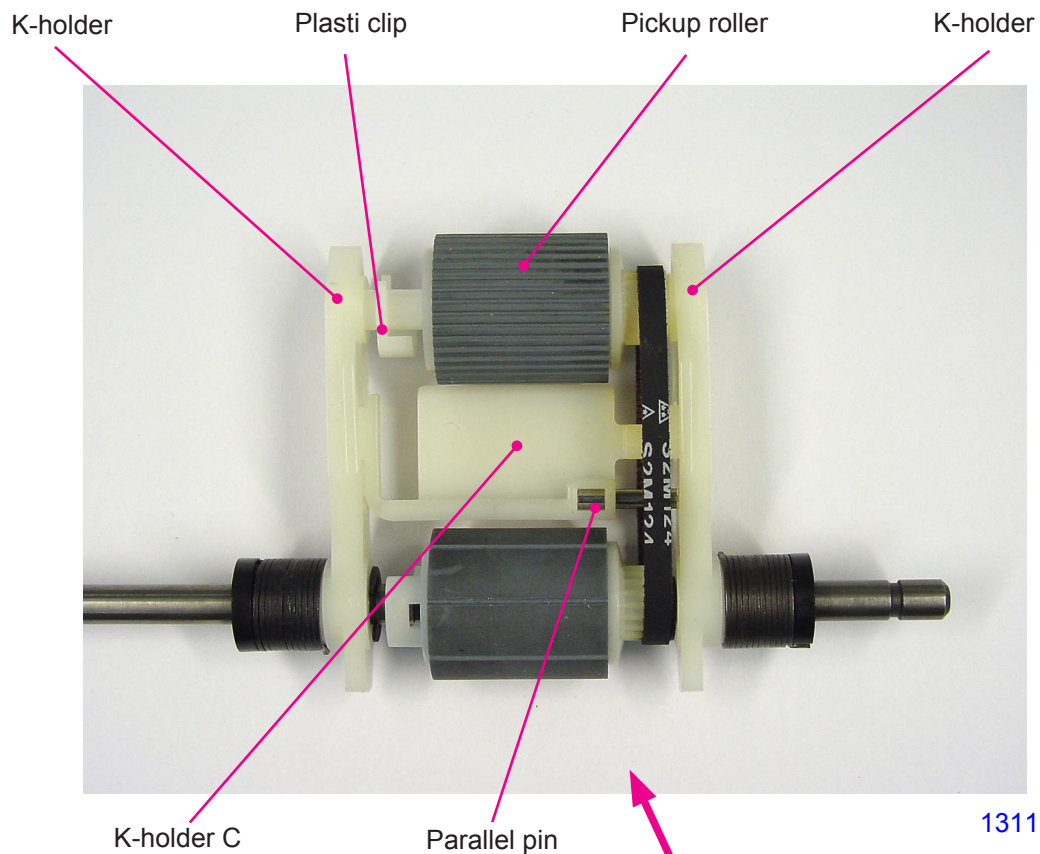
< Original feed roller assembly >

1310

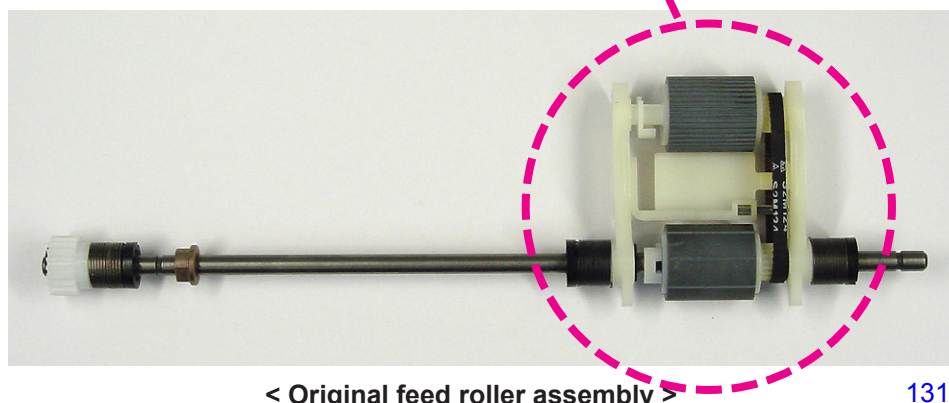
2. Removing the Pickup Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Remove the Original feed roller assembly (refer to the removal instructions in this Chapter).
- (2) Remove the Plastic clip, open the end of the K-holder, and remove the Pickup roller. (Note that the K-holder C and Parallel pin may fall during disassembly.)



1311



< Original feed roller assembly >

1310

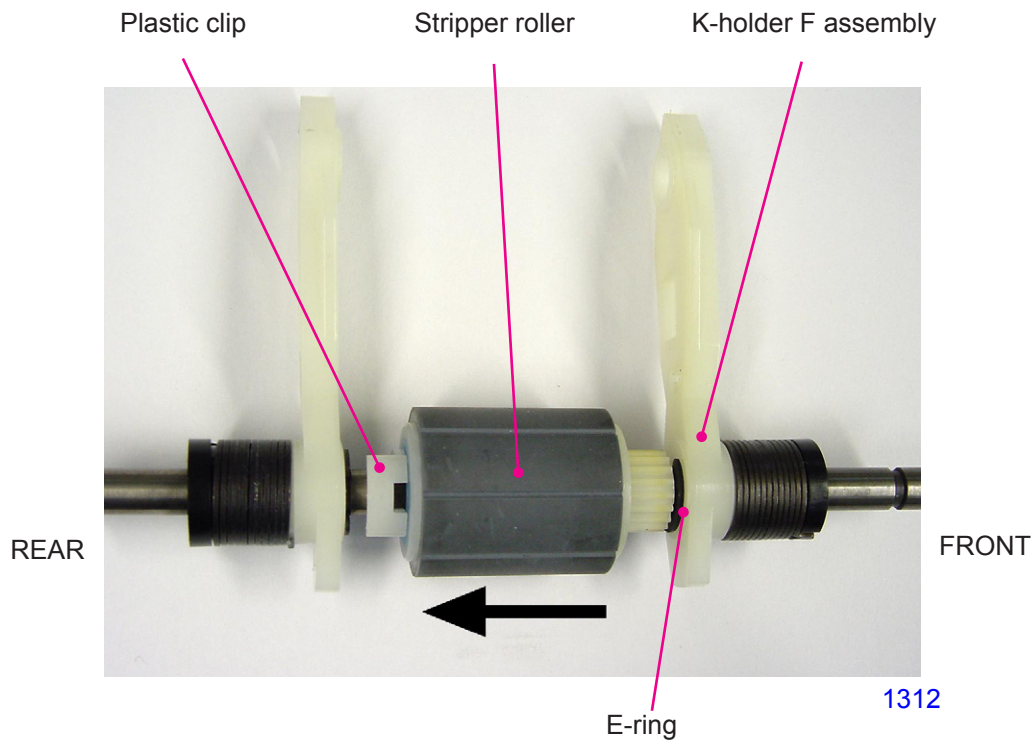
3. Removing the Stripper Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

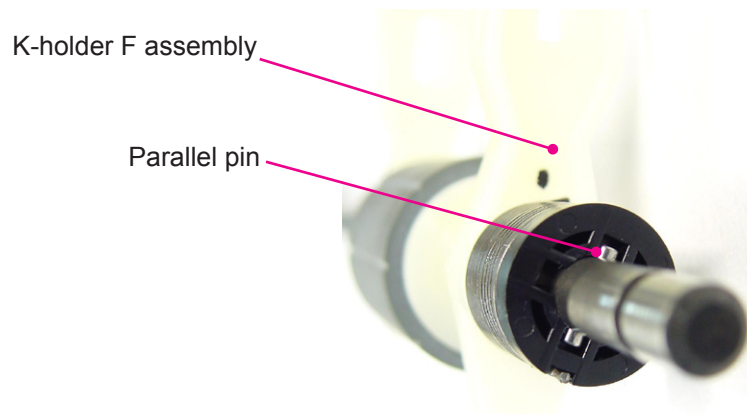
- (1) Remove the Original feed roller assembly (refer to the removal instructions in this Chapter).
- (2) Remove the K-holder C, Parallel pin, and Pickup roller (refer to the removal instructions in this Chapter).
- (3) Remove the Plastic clip from the rear of the Stripper roller, and move the Stripper roller in the direction indicated by the arrow.
- (4) Remove the E-ring, move the K-holder F assembly slightly in the direction indicated by the arrow, pull out the Parallel pin holding the K-holder F assembly in place from the shaft, and remove the K-holder F assembly.
- (5) Remove the Stripper roller.

< Precautions in Reassembly >

- When installing the Parallel pin to hold the K-holder F assembly in place, be sure to insert it into the shallower groove on the K-holder F assembly.
- The Stripper roller must be installed with the correct orientation. Make sure that the gear on the Stripper roller faces the front of the machine.



1312



1313

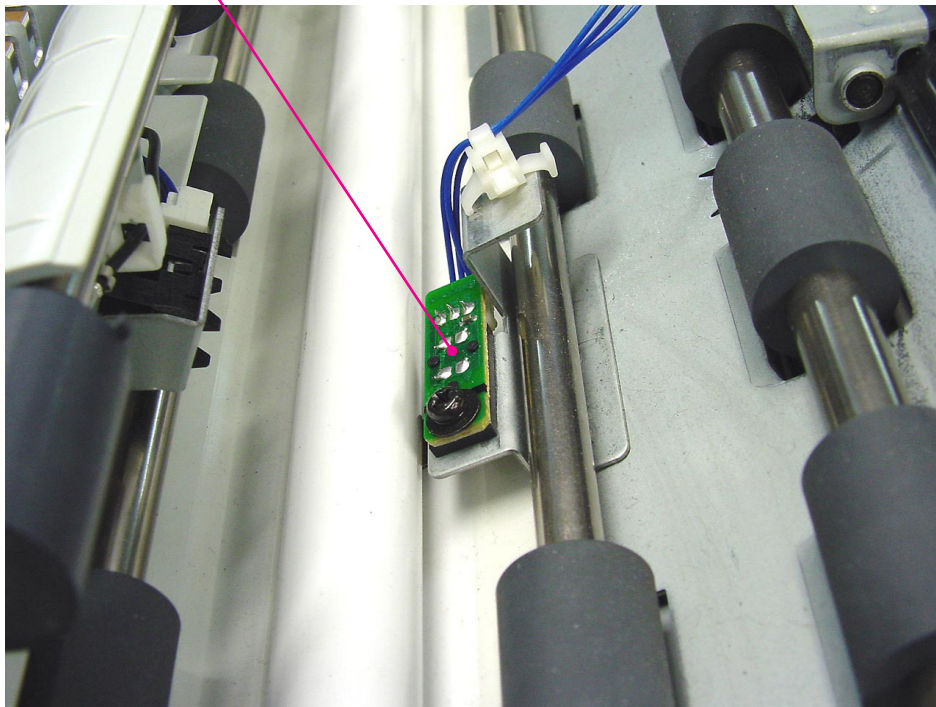
< View of the K-holder F assembly and Parallel pin >

4. Removing the AF Read Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Remove the Top cover by loosening the screws (M4 x 6 screws; 3 pcs) on the surface of the Top cover and removing the screws (M4 x 10 screws; 2 pcs) from the underneath.
- (2) Remove the screw (M3 x 8 screw; 1 pc), disconnect the connector, and remove the AF read sensor.

AF read sensor



1314

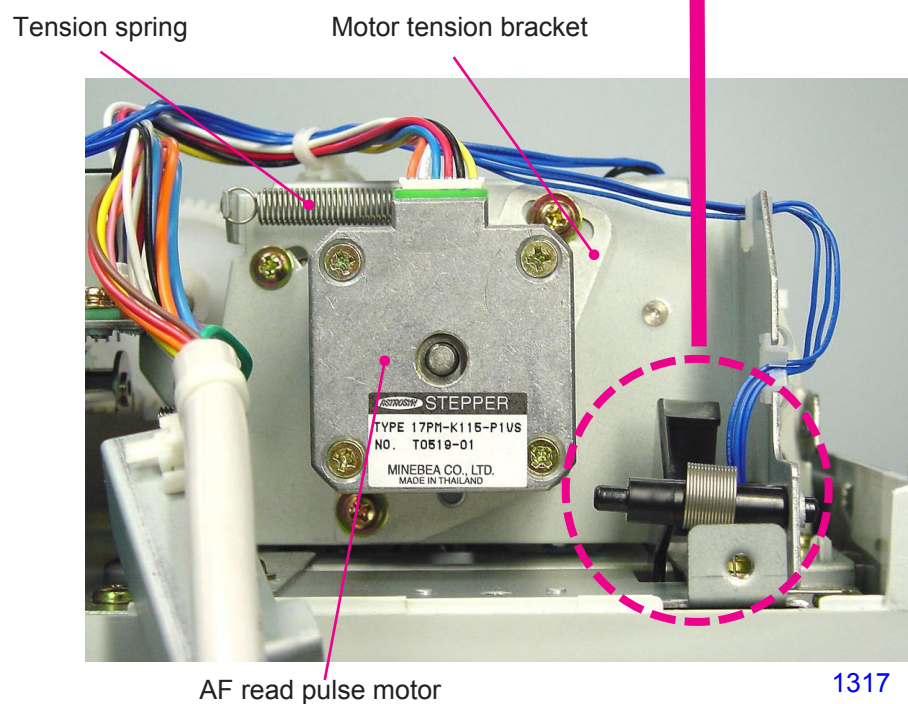
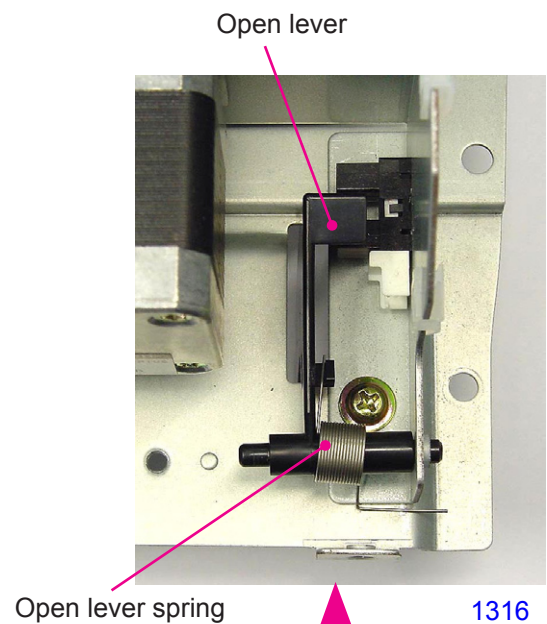
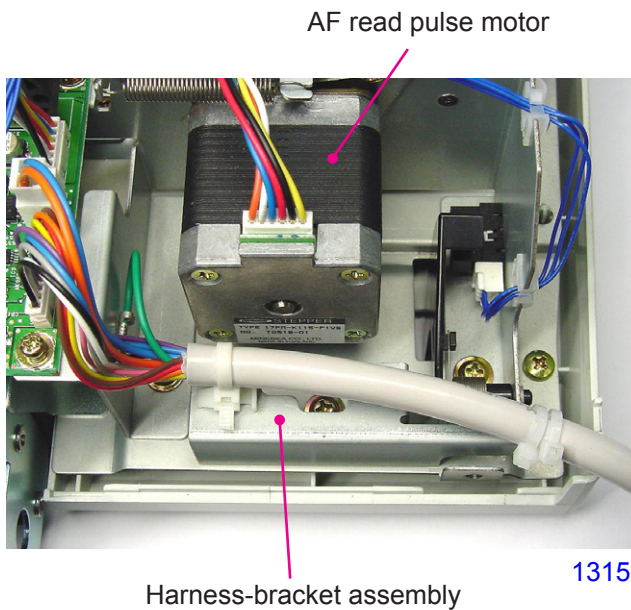
< Precautions in Reassembly >

After the reassembly, adjust the AF read sensor by using Test Mode No. 3044 (AF Read Sensor Sensitivity Adjustment).

5. Removing the AF Read Pulse Motor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

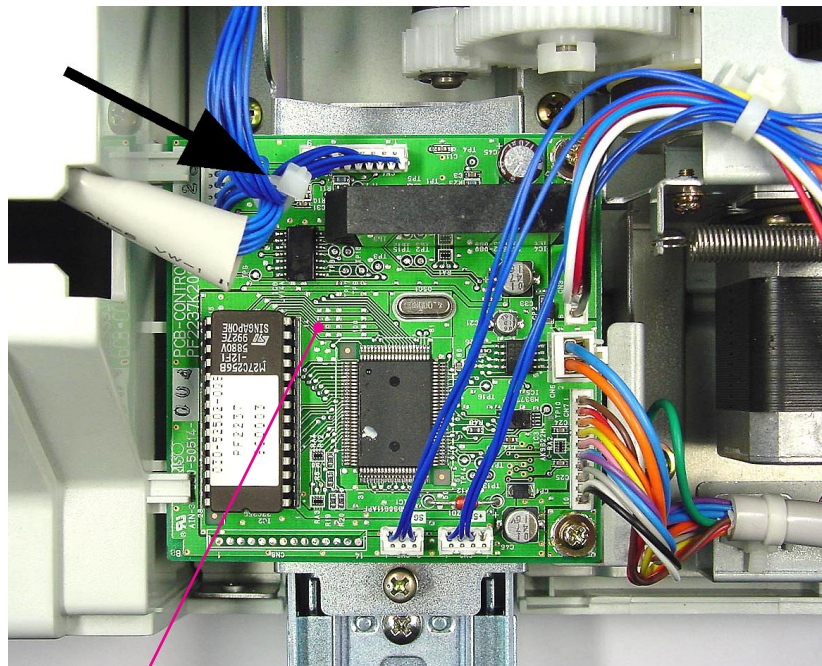
- (1) Remove the Top cover by loosening the screws (M4 x 6 screws; 3 pcs) on the surface of the Top cover and removing the screws (M4 x 10 screws; 2 pcs) from the underneath.
- (2) Remove a screw (M4 x 6 screw; 1 pc), and move the Harness-bracket assembly to the side.
- (3) Remove the Open lever together with the Open lever spring.
- (4) Remove the Tension spring, mounting screws (M3 x 6 screws; 2 pcs), and then remove the AF read pulse motor together with the Motor tension bracket.



6. Removing Other Rollers

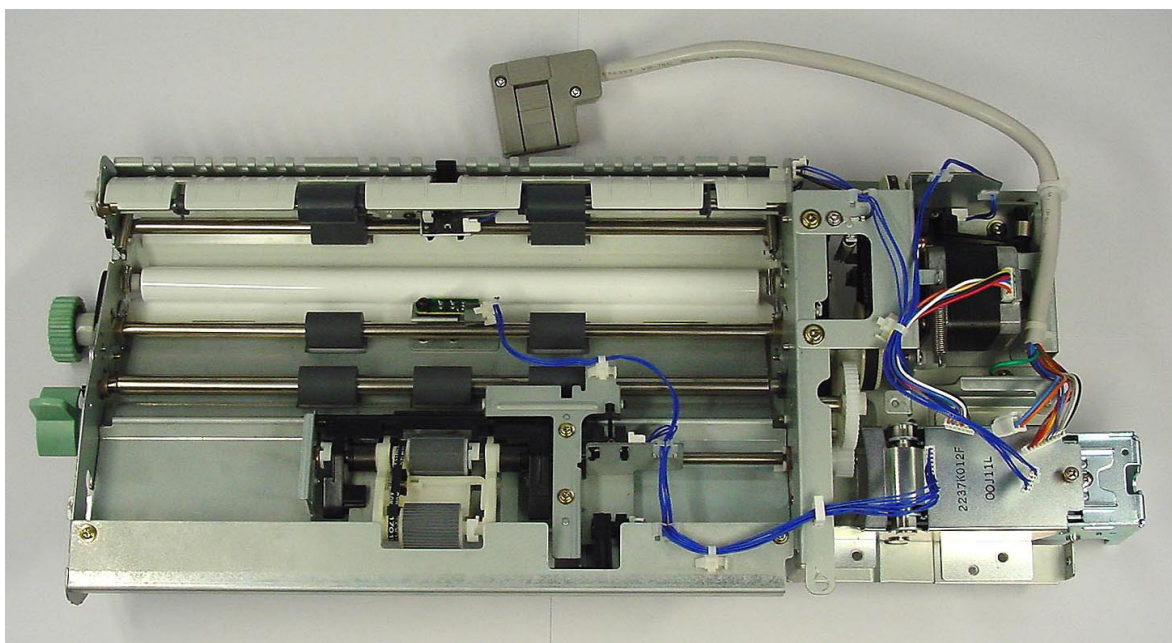
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Remove the AF unit from the machine.
- (2) Remove the Top cover by loosening the screws (M4 x 6 screws; 3 pcs) on the surface of the Top cover and removing the screws (M4 x 10 screws; 2 pcs) from the underneath.
- (3) Disconnect the connector, and remove the Control PCB by removing screws (M3 x 6 screws; 2 pcs).
- (4) Cut the band indicated by the arrow on the photograph, remove the mounting screws (M4 x 10 screws; 7 pcs), (M4 x 10 screws + Washer; 2 pcs on the front), and remove the AF mechanism unit.



AF control PCB

1318



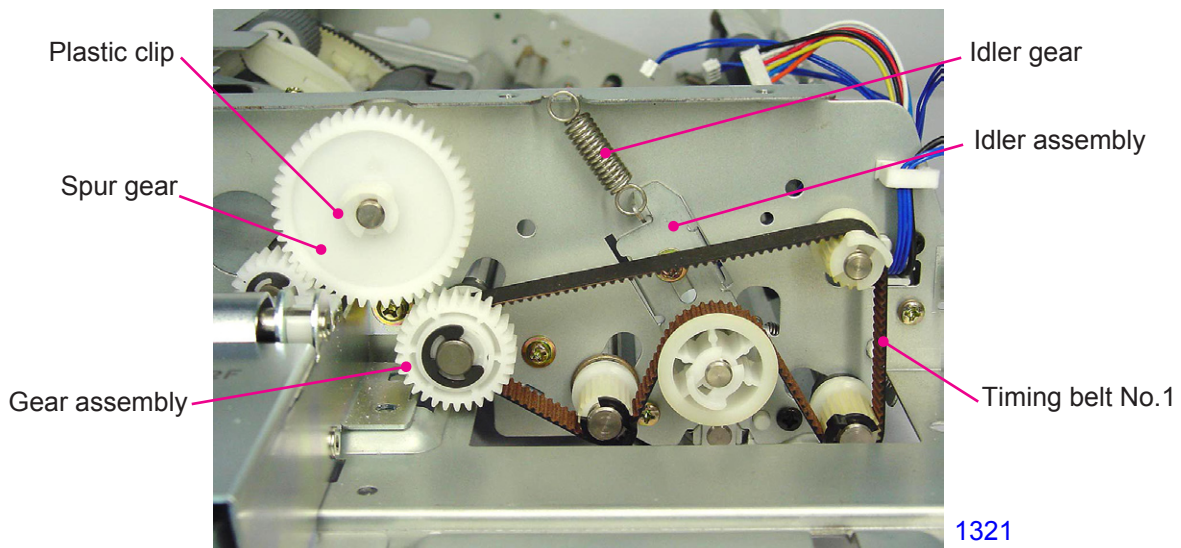
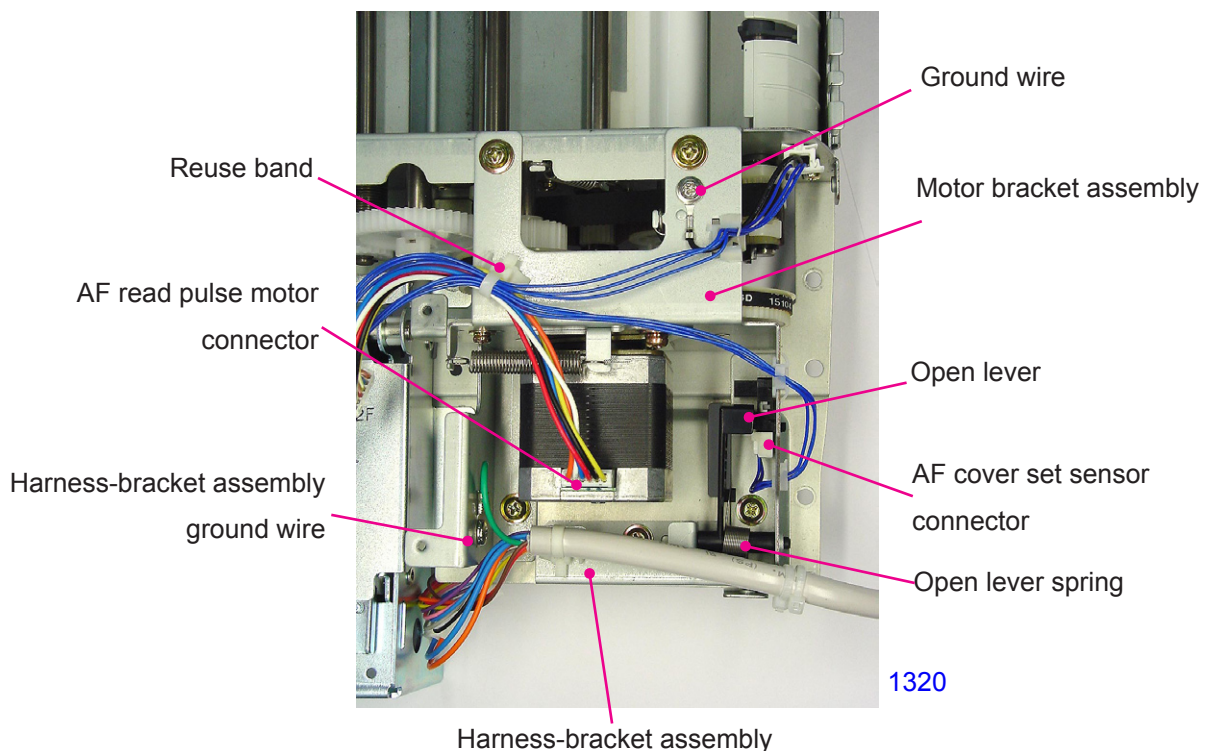
< AF Mechanism Unit >

1319

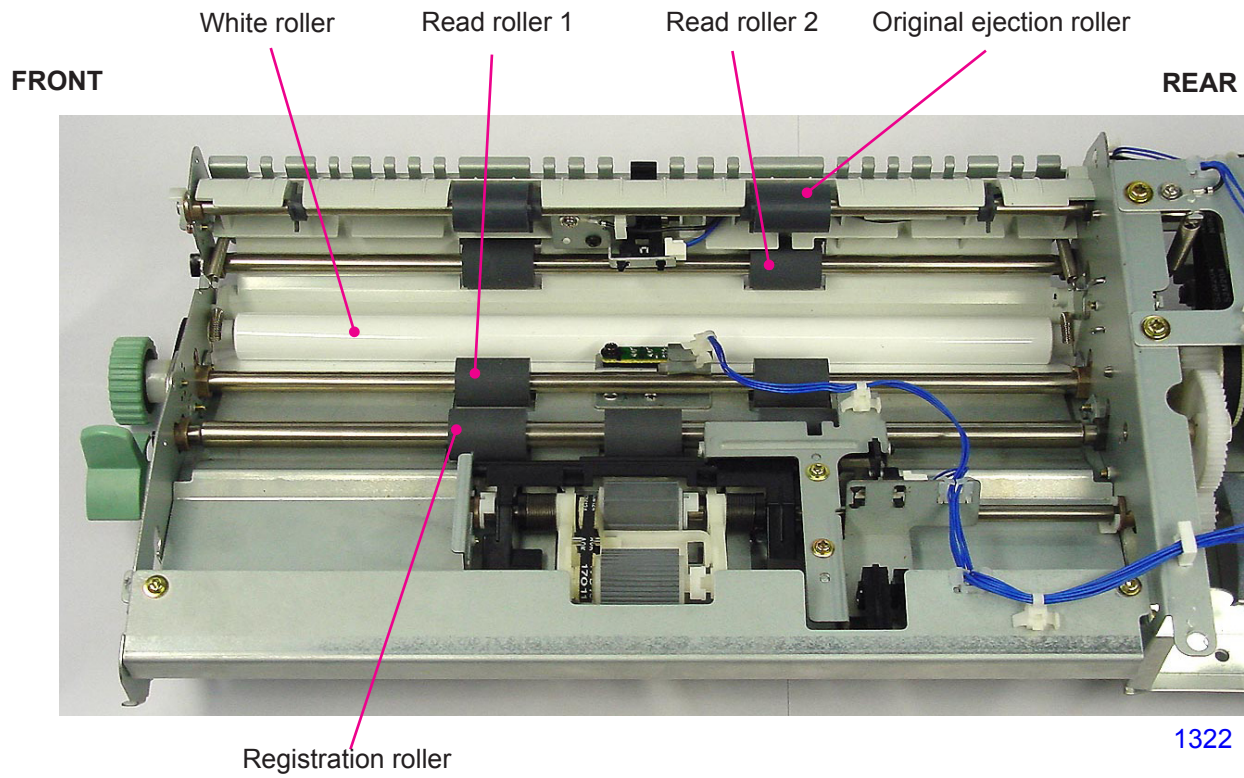
- (5) Disconnect the AF cover set sensor connector and AF read pulse motor connector, and remove the Ground wire by removing screw (M3 x 6 screw; 1 pc).
- (6) Remove the Reuse band, remove the harness from the three harness clamps, and move the harness to the side.
- (7) Remove the Ground wire from the Harness-bracket assembly by removing screw (M4 x 6 screw; 1 pc).
- (8) Remove the Harness-bracket assembly by removing screw (M4 x 6 screw; 1 pc).
- (9) Remove the Open Lever together with the Open lever spring.
- (10) Remove the Motor bracket assembly by removing screws (M4 x 6 screws; 4 pcs).
- (11) Loosen the Idler assembly securing screws, and remove the Idler spring.
- (12) Remove the Plastic clip, Spur gear, E-ring, Gear assembly, and Timing belt No.1, in that order.

< Precautions in Reassembly >

The Gear assembly has a built-in one-way clutch. Be sure to install the Gear assembly with the stamped surface facing the front.

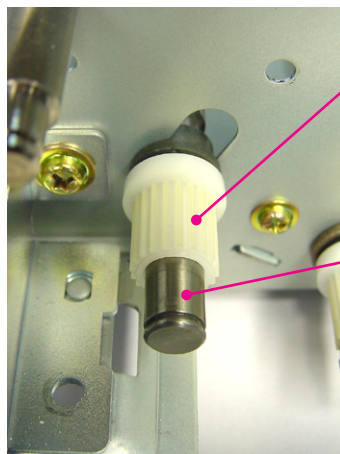


< Layout of the rollers >



Removing the Registration roller

- (13) Remove the Timing pulley from the rear end of the Registration roller. Also remove the Parallel pin at the same time.
- (14) Remove the E-ring, and remove the Metal bushing.
- (15) Remove the Plastic clip from the front of the roller, and remove the Metal bushing.
- (16) Remove the Registration roller.

**REAR**

1323

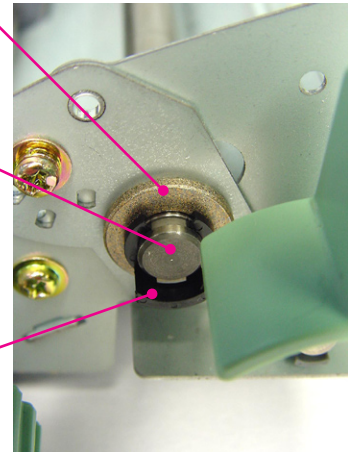
Timing pulley

Registration roller

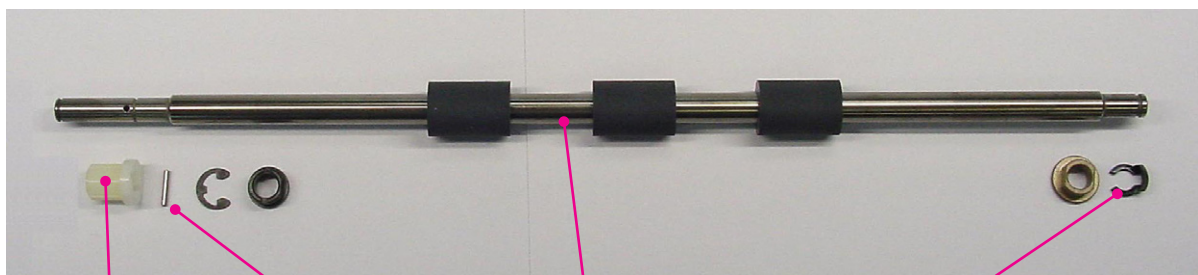
Metal bushing

Registration roller

Plastic clip

**FRONT**

1324

REAR**FRONT**

Timing pulley

Parallel pin

Registration roller

Plastic clip

1325

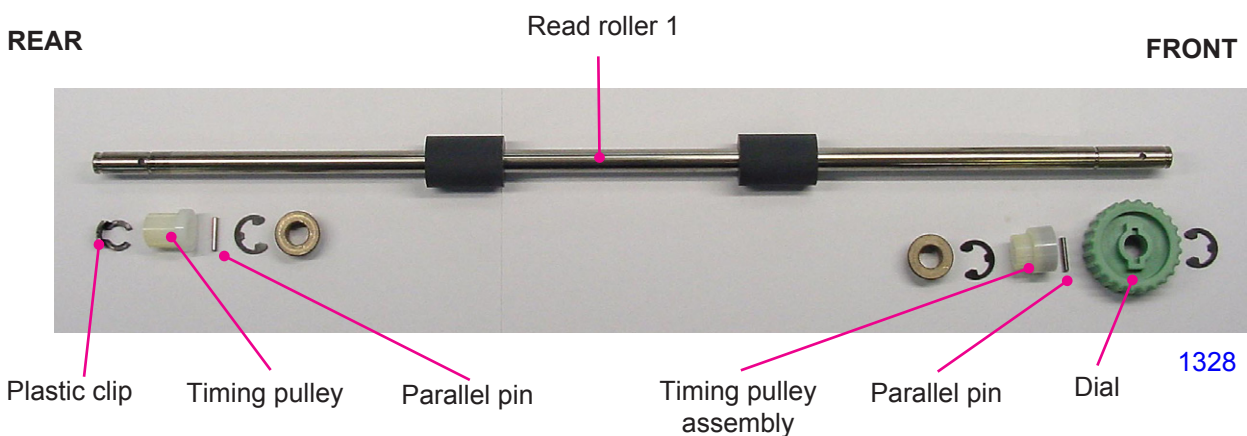
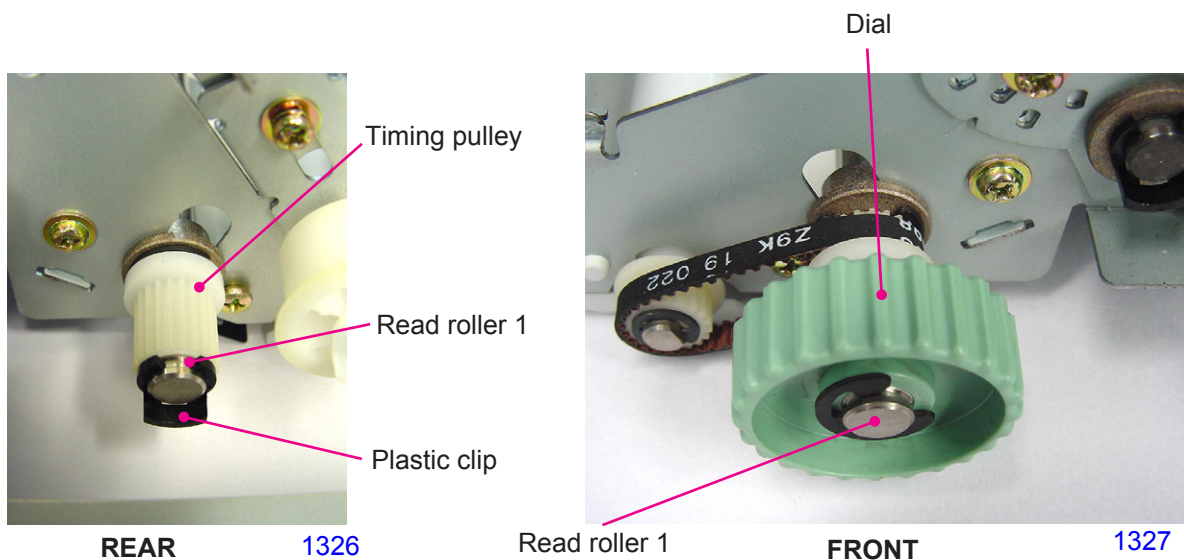
Removing the Read Roller No. 1

< CAUTION: Before removing the Read roller No. 1, remove the Registration roller in advance. >

- (13) Remove the Plastic clip from the rear side of the roller, and remove the Timing pulley. Also remove the Parallel pin at the same time.
- (14) Remove the E-ring, and remove the Metal bushing.
- (15) Remove the E-ring from the front end of the roller, and remove the Dial. Also remove the Parallel pin at the same time.
- (16) Remove the Timing pulley assembly, remove the E-ring, and remove the Metal bushing.
- (17) Remove the Read roller No. 1.

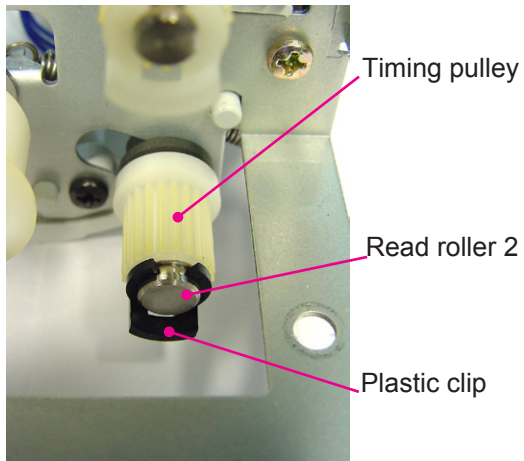
< Precautions in Reassembly >

The Timing pulley assembly has a built-in one-way clutch. Be sure to install the Gear assembly with the stamped face toward the front.

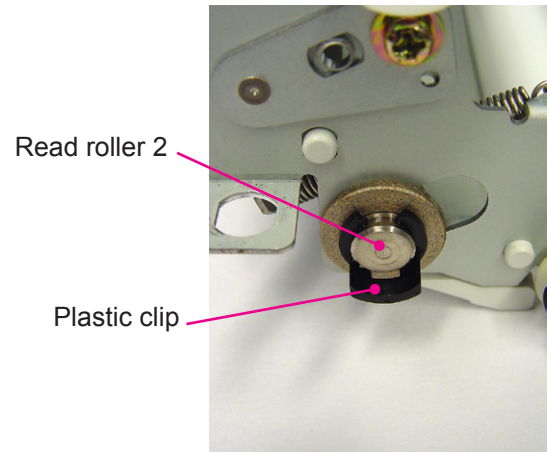


Removing the Read Roller No. 2

- (13) Remove the Plastic clip from the rear end of the roller, and remove the Timing pulley. Also remove the Parallel pin at the same time.
- (14) Remove the E-ring, and remove the Metal bushing.
- (15) Remove the Plastic clip from the front end of the roller, and remove the Metal bushing.
- (16) Remove the Read roller No. 2.



1329

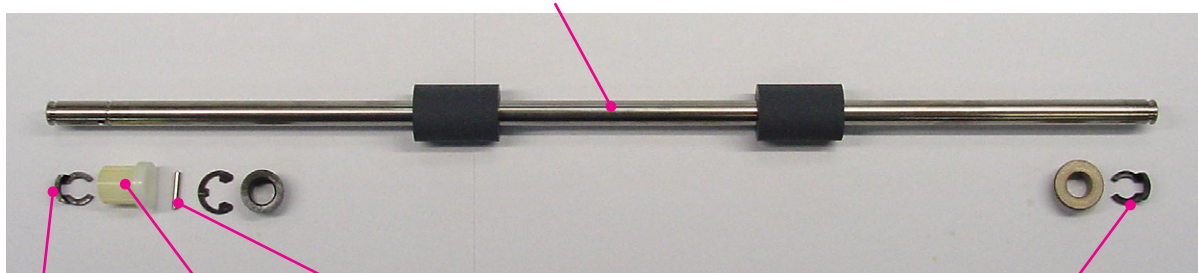


1330

REAR

Read roller 2

FRONT



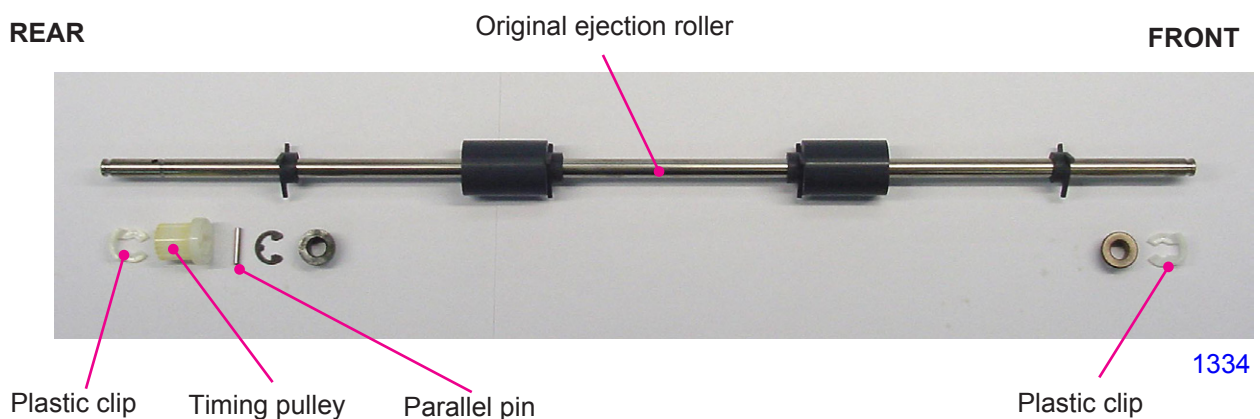
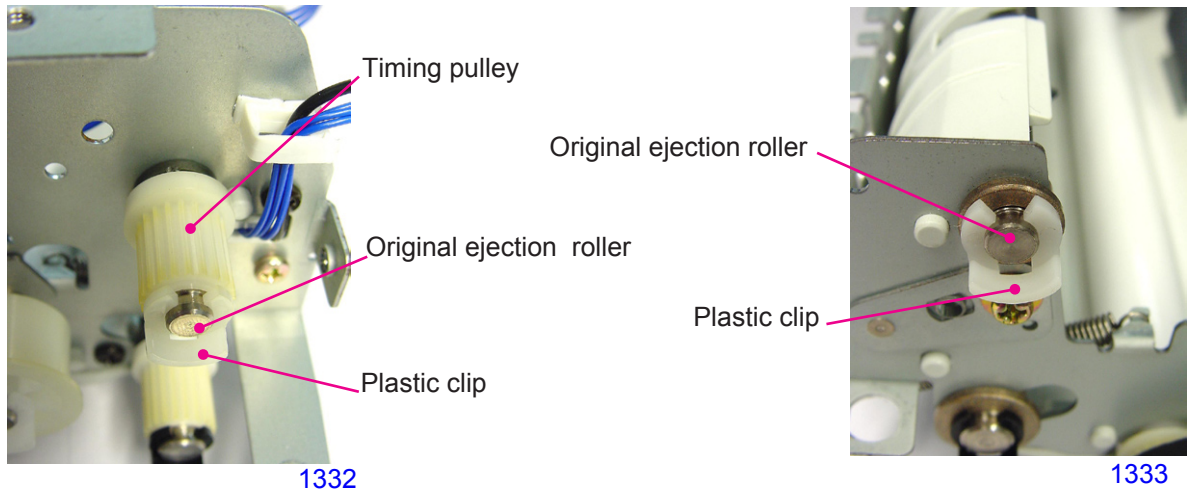
1331

Plastic clip Timing pulley Parallel pin

Plastic clip

Removing the Original Ejection Roller

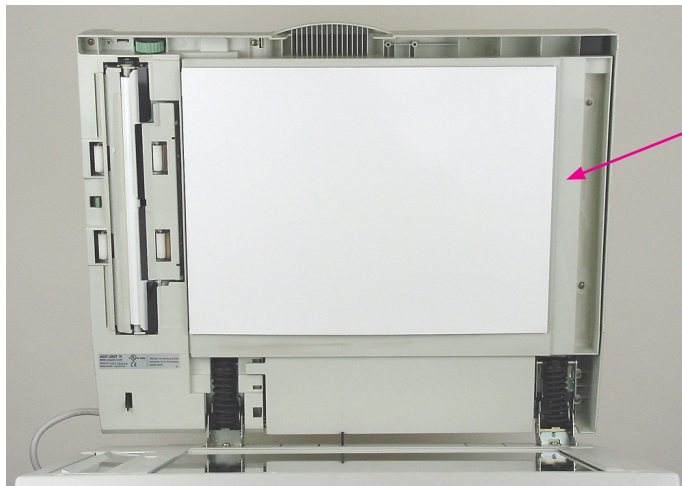
- (13) Remove the Plastic clip from the rear end of the roller, and remove the Timing pulley. Also remove the Parallel pin at the same time.
- (14) Remove the E-ring, and remove the Metal bushing.
- (15) Remove the Plastic clip from the front end of the roller, and remove the Metal bushing.
- (16) Remove the Original ejection roller.



7. Removing the AF Original Width Potentiometer Assembly

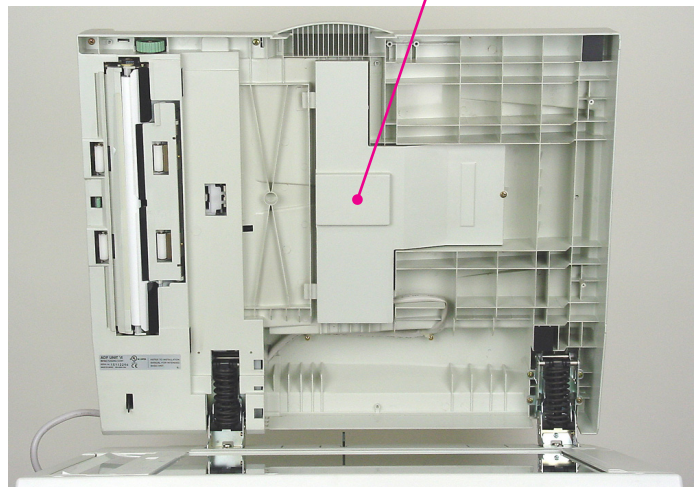
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Open the AF unit.
- (2) Remove the Stage cover assembly by removing screws (M3 x 10 screws+Plastic washer; 2 pcs).
- (3) Remove the Bottom cover by removing screw (M4 x 10 screw; 1 pc).
- (4) Unplug connector, and remove the AF original width potentiometer assembly by removing screws (M3 x 10 screws; 2 pcs).



Stage cover assembly

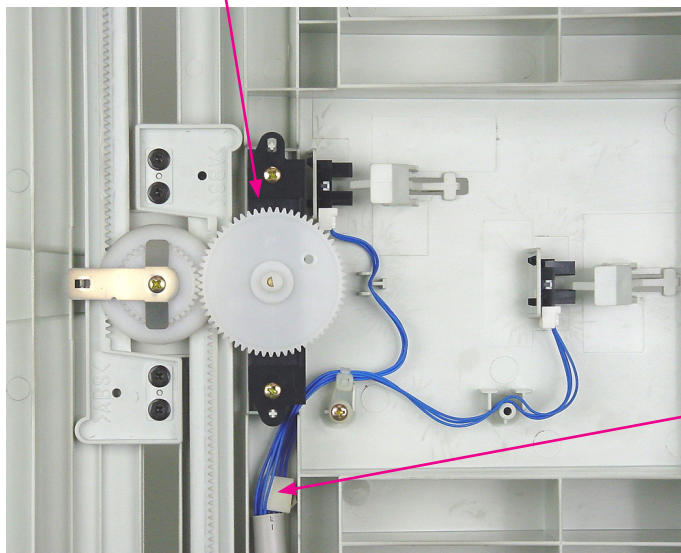
1335



Bottom cover

1336

AF original width potentiometer assembly



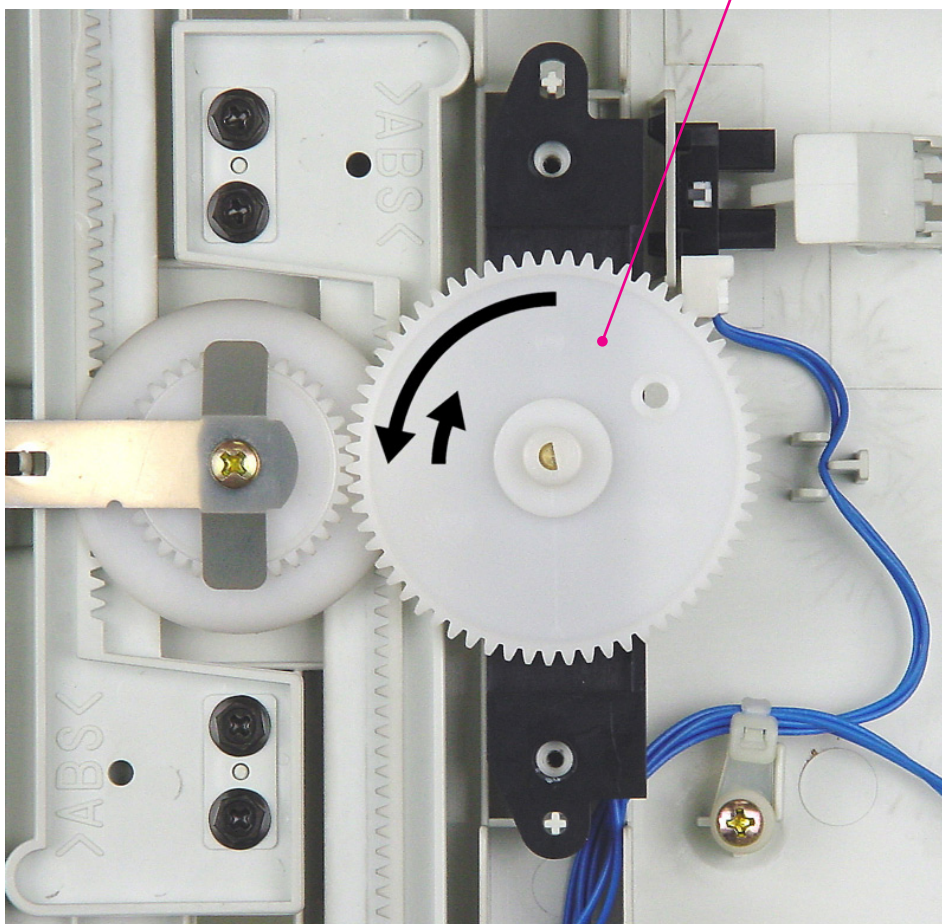
Connector

1337

< Precautions in Reassembly >

- Before putting back the Original width potentiometer assembly, slide the Original guide fences to the innermost (closed) position, and rotate the gear of the Original width potentiometer assembly in the counterclockwise direction all the way. Then rotate it back one tooth and mount the Original width potentiometer assembly back on the AF unit.
- After the assembly is back on the AF unit, activate test mode No.3045 [AF-guide min.-width VR value] with the Original guide fence closed all the way. Then activate test mode No.3046 [AF-guide max.-width VR value] with the Original guide fence opened wide all the way.

Gear of the Original width potentiometer



1338

Adjustment

1. AF Scan Start-Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and procedure

- (1) Place A3 size printing paper on the Paper feed tray. Make 1 to 1 size master using test chart No.11 on the AF unit, and make prints.
- (2) Examine the prints to confirm that the AF scan start-position is at 5 mm \pm 2 mm on the top vertical scale on the test chart No.11 printed image.
- (3) If the AF scan start-position does not fall within above specification, make an adjustment using test mode No.3073 (AF Scan Start Position Adjustment).

2. AF Horizontal Scan Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and procedure

- (1) Place A3 size printing paper on the Paper feed tray. Make 1 to 1 size master using test chart No.14 on the AF unit.
- (2) Examine the master created on the Print drum, and confirm that the [e] images on the left and right of the original is not missing on the created master.
- (3) If not all the [e] images are made on the master, make adjustment using test mode No.3072 (AF Horizontal Scan Position Adjustment).

3. AF Scanning Speed Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and procedure

- (1) Place A3 size printing paper on the Paper feed tray. Make 1 to 1 size master using test chart No.11 on the AF unit, and make prints.
- (2) Lay the print on top of the original to confirm that the image elongation or shrinkage is within $\pm 1.0\%$ at the 350mm line of the test chart image.
- (3) If the elongation and shrinkage does not fall within this specification, make an adjustment using test mode No.3074 (AF Scanning Speed Adjustment).

<CAUTION>

Make sure that master-making elongation/shrinkage adjustment is already made prior to this scanning adjustment.

4. AF Original Guide Fence Potentiometer Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Adjustment

- (1) Slide the Original guide fence to the innermost (closed) position, and run test mode No.3045 [AF-guide min.-width VR value].
- (2) Then slide the Original guide fence to the outermost (opened) position, and run test mode No.3046 [AF-guide max.-width VR value].

5. AF Read Sensor Sensitivity Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Adjustment

- (1) Without an original, execute Test Mode No. 3044 [AF Read Sensor Sensitivity Adjustment]. This will automatically adjust the sensitivity of the sensor.

CHAPTER 16: MASTER MAKING SECTION

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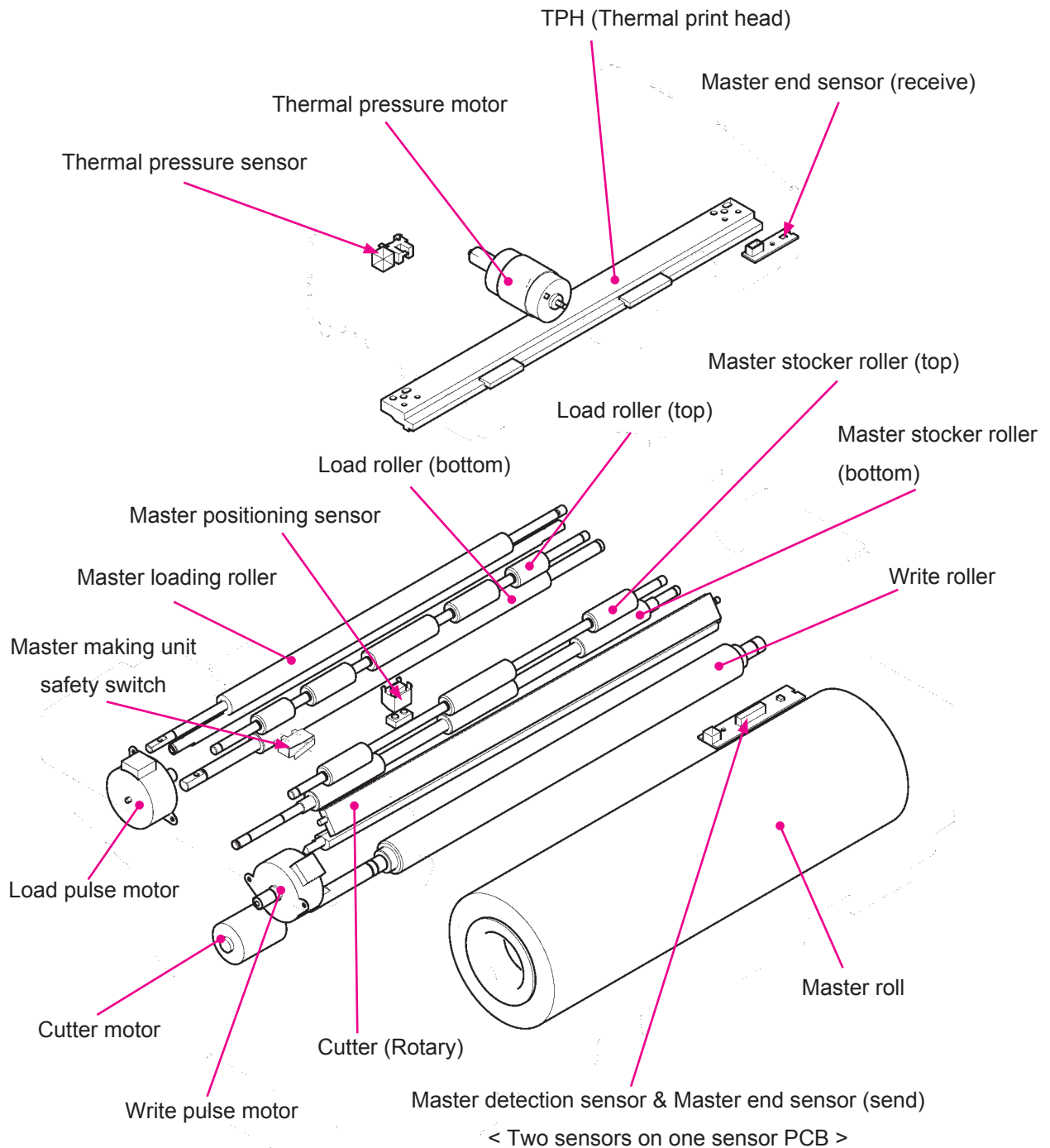
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Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	#	O	#	O	O

1. Master Making Mechanism

The cutter unit shown on the sketch below is a rotary cutter. Shuttle cutter is used on EZ3 with Print Drums smaller than A3/Ledger size and on all RZ2 and RV2 series.



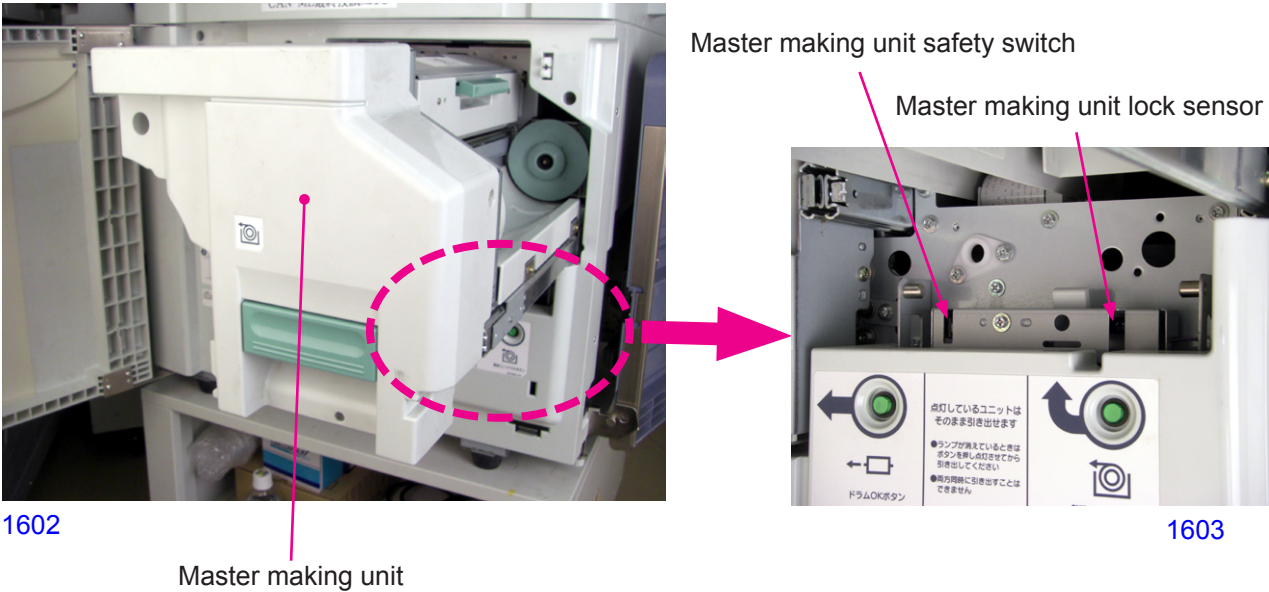
1601

2. Set Detection Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

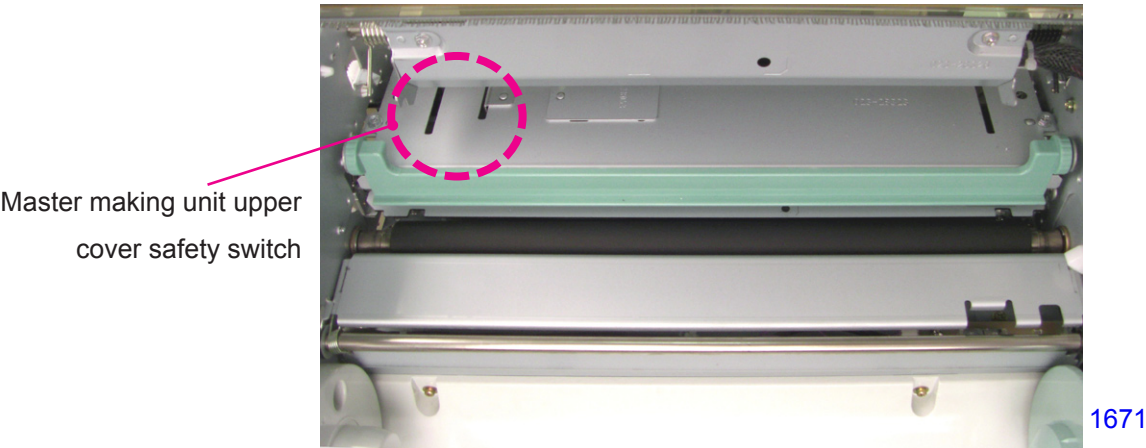
Master making unit set detection mechanism

The Master making unit is a pull-out type.
The pulling out and insertion of the Master making unit are conducted at Position-B. The Master making unit safety switch and Master making unit lock sensor confirm that the Master making unit is set.
When the Master making unit safety switch is OFF, the Main motor, Clamp motor, Master compression motor, Master removal motor and Separation fan are electrically designed not to go activate.



Master making unit upper cover detection mechanism

The Master making unit upper cover safety switch confirms that the Master making unit upper cover is set, and the master setting operation is performed once the cover is set. When the Master making unit upper cover safety switch turns OFF, the Thermal pressure motor is electrically designed not to go activate.



Master end detection

The end of the Master roll is detected by the Master end sensor by detecting the black end mark attached on the tail end of the master material on the Master roll. The Master end sensor checks the master material every 10 ms while the master is transported, and the master roll replace message is indicated when the end mark is detected twice in succession.

3. Master Cutting Mechanism (Rotary Cutter)

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	#	O	X	O	O

Shuttle cutter is used on EZ3 with Print Drums smaller than A3/Ledger size and on all RZ2 and RV2 series.

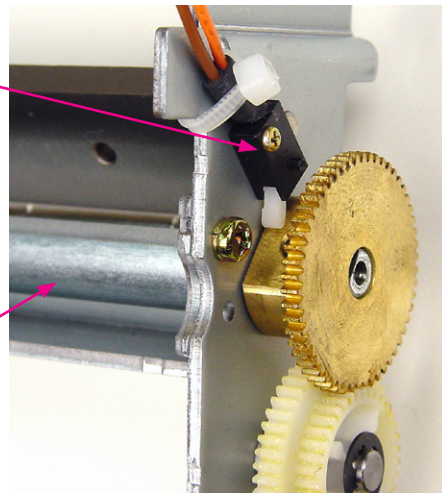
The master is cut by the rotary cutter of the Cutter unit, which is rotated by the Cutter motor. The Cutter motor rotates in one direction.

The Cutter HP SW confirms the home position of the rotary cutter. The Cutter is at the home position when the switch is not pressed.

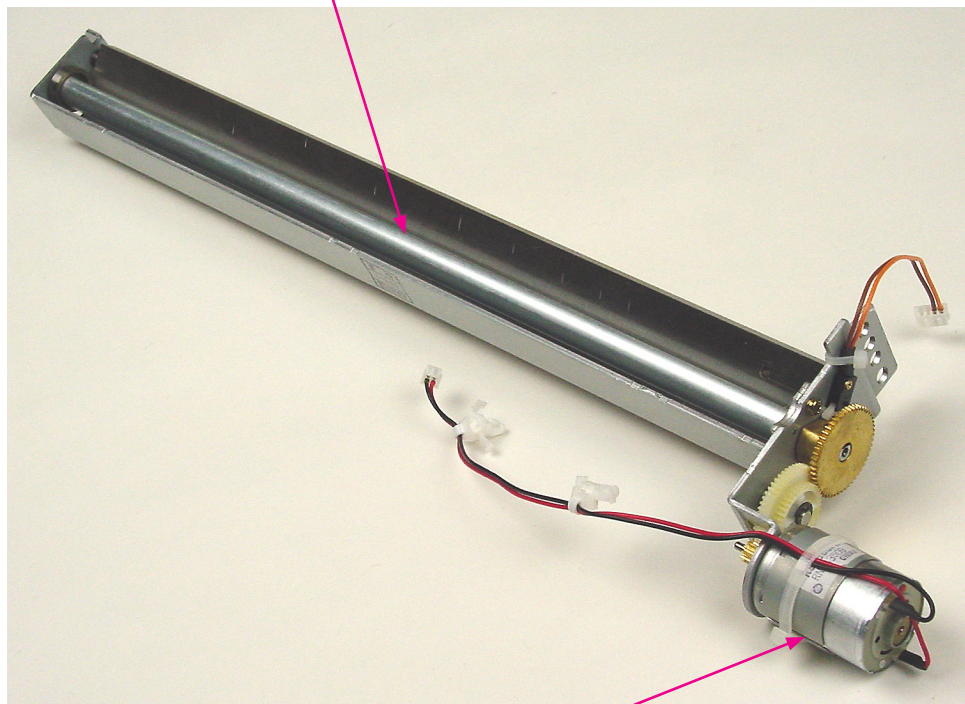
As the Cutter motor activates, the gears turn to rotate the Rotary blade. The cam on the metal gear pushes against the actuator of the Cutter HP SW and after one rotation of the cam, the switch actuator arrives back to the flat-cut on the cam. The switch actuator, no longer pressed by the cam, stops the Cutter motor.

Cutter HP switch

Rotary blade



1604



1605

Cutter motor

4. Master Cutting Mechanism (Shuttle Cutter)

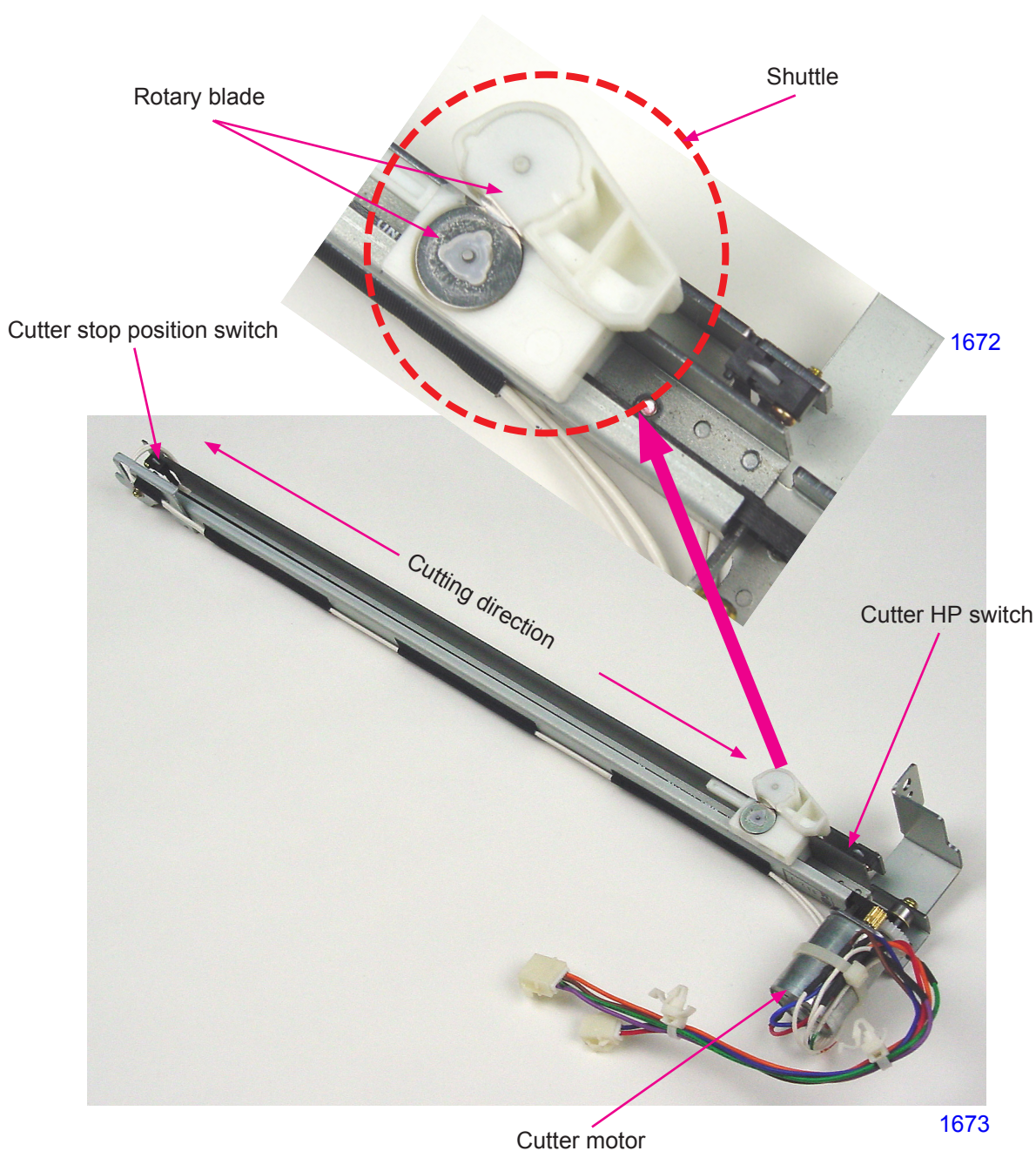
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	#	X	O	X	X

Rotary cutter is used on EZ3 with Print Drum size of A3/Ledger and on all EZ5, EV5 and EV3 series.

The master is cut by the shuttle (rotary blade include in the unit) of the Cutter unit back and forth motion driven by the Cutter motor.

The Cutter HP switch and the Cutter stop position switch both confirm the shuttle position of the Cutter unit.

The Cutter is at the home position when the Cutter HP switch is pressed. As the Cutter motor activates, the Shuttle moves in cutting direction. When the shuttle presses the Cutter stop position switch, the Cutter motor stops. After that the Cutter motor rotates in reverse and the Shuttle moves to the cutter home position. The Cutter HP switch depressed, stops the Cutter motor.



5. TPH (Thermal Print Head) Elevation Mechanism

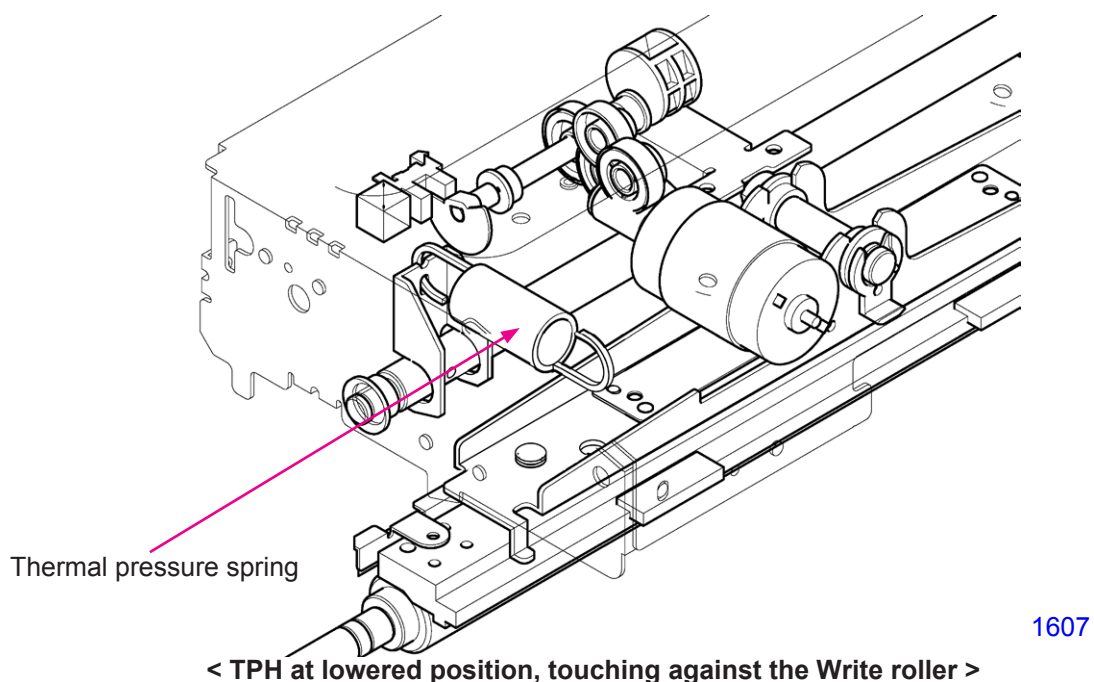
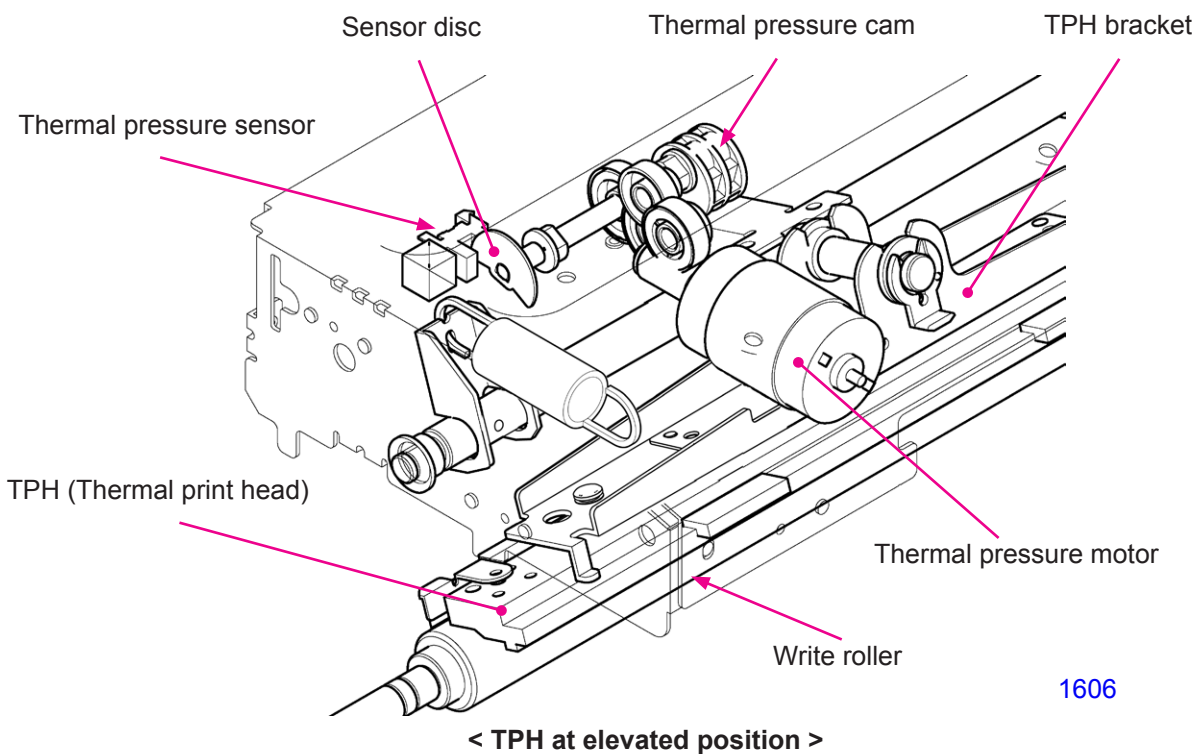
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

When the machine is in standby or when loading the master onto the Print drum after master making, the TPH is elevated away from the Write roller. The TPH is lowered against the Write roller only during the master making and in master transport operation.

The up and down movement of the TPH is made by the rotation of the Thermal pressure cam (Eccentric cam) driven by the Thermal pressure motor.

The stop position of the TPH, whether going up or down, is detected by the combination of the Thermal pressure sensor and Sensor disc.

When the machine power is switched ON or when the Reset button is pressed, the initialization movement of the machine elevates the TPH away from the Write roller.



6. Master Set Mechanism

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	#	O	#	O	O

The cutter unit shown on the sketch below is a rotary cutter. Shuttle cutter is used on EZ3 with Print Drums smaller than A3/Ledger size and on all RZ2 and RV2 series.

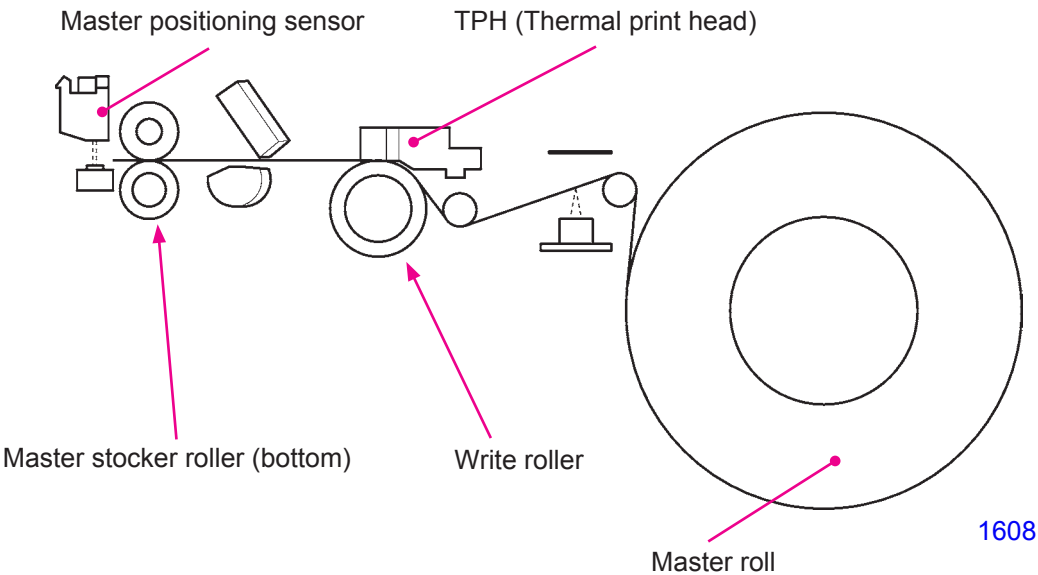
When the Master making unit upper cover safety switch detects the Master making unit upper cover closed, the master set operation, described below takes place.

First, the TPH is elevated down against the write roller, with the master material pinched in between. Then the Write pulse motor rotates both the Write roller and Master stocker roller to feed the master material forward until the leading edge of the master material is detected by the Master positioning sensor. The Write pulse motor stops and the TPH is elevated up away from the Write roller. Then the Write pulse motor rotates again to advance the master material 20 mm forward by the rotation of the Master stocker roller, and the Write pulse motor stops.

The TPH is elevated down against the Write roller again and the Write pulse motor rotates in the reverse direction to bring the master material back. From the point when the leading edge of the master material clears away from the Master positioning sensor, the master material continues to come back 5 mm in distance. The Write pulse motor stops, and the TPH is elevated up. This distance can be adjusted by test mode No. 540 [Master front-end position adjustment]. The master set operation ends and the Master making unit waits for the master making operation to start.

The master set operation is also performed after each master cut operation, as described below.

After the cutter operates to cut the master material, the TPH elevates down against the Write roller. The Write pulse motor activates to send the master material forward until the leading edge of the master material is detected by the Master positioning sensor. The Write pulse motor stops once, and then rotates in the reverse direction for 5 mm from the point the leading edge of the master material escapes from the Master positioning sensor (Can be adjustable by test mode No. 540). The Write pulse motor stops and the TPH is elevated up. The master set operation ends and the master making unit waits for the master making operation to start.

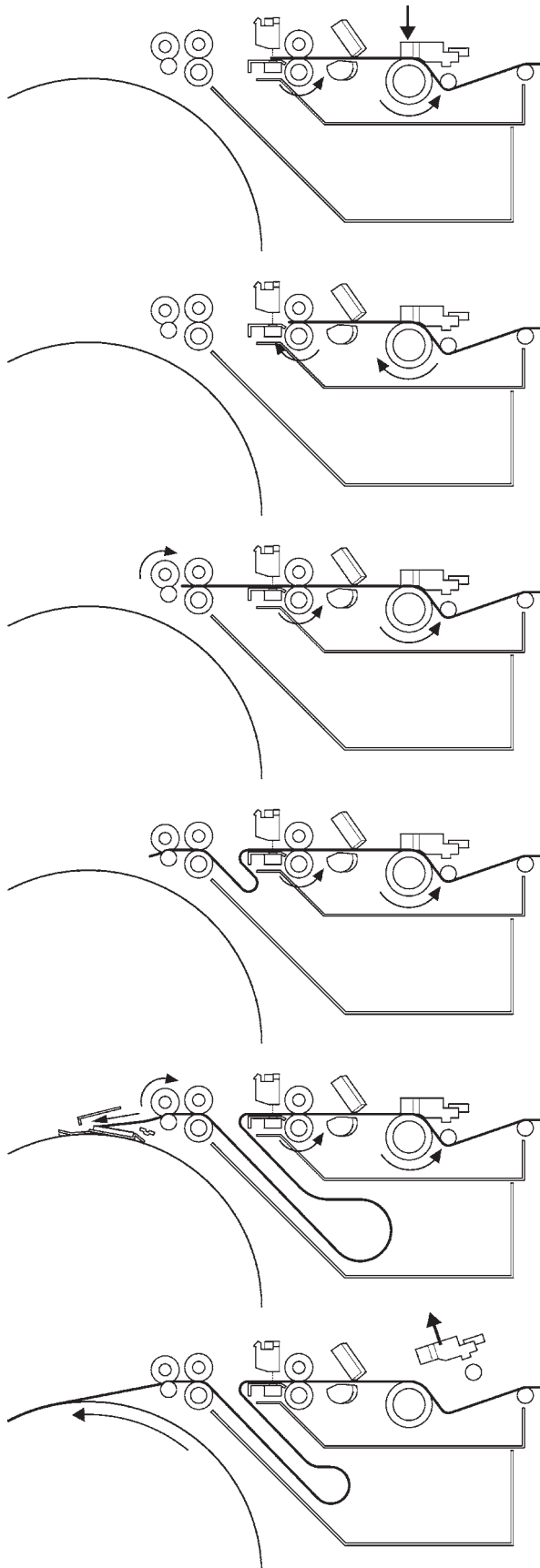


7. Master Making Movement

EZ2	EZ3	EZ5	EV2	EV3	EV5
#	#	O	#	O	O

The cutter unit shown on the sketch below is a rotary cutter. Shuttle cutter is used on EZ3 with Print Drums smaller than A3/Ledger size and on all RZ2 and RV2 series.

The start of master making to the master loading on the Print drum is explained in sequence below.



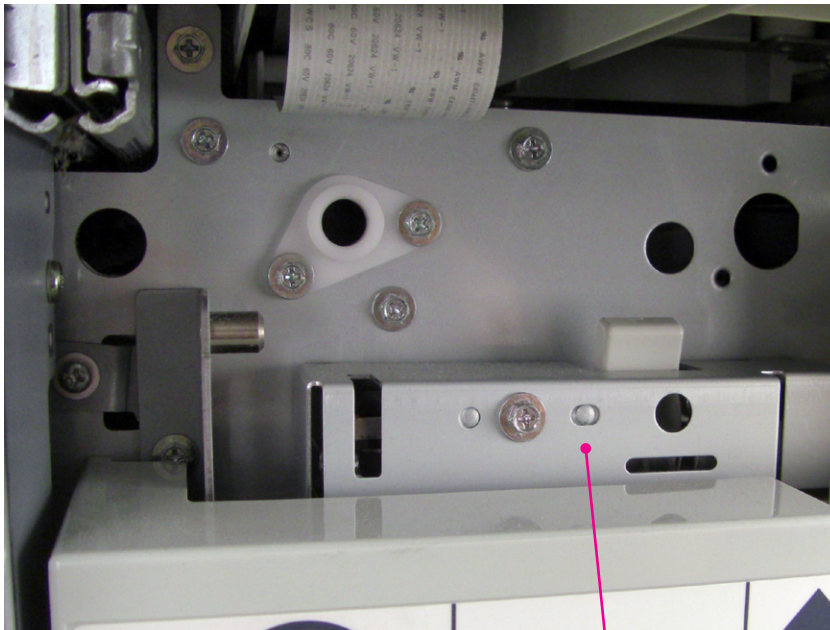
- (1) At the start of the master making, the TPH comes down to pinch the master material between the TPH and the Write roller. The Write pulse motor activates to rotate the Write roller and Master stocker roller in the forward direction to feed the master material to the Master positioning sensor.
- (2) The Write pulse motor rotates in the reverse direction to bring the master material back away from the Master positioning sensor for a given distance and waits for the scanning to proceed.
- (3) With the master making start signal, both the Load pulse motor and Write pulse motor rotates in the forward direction to transfer the leading edge of the master material to the Load roller and the master making starts.
- (4) Just before the leading edge of the master reaches the master loading onto the Drum position, the Separation fan is activated. The Load pulse motor stops when the leading edge of the master arrives to the master loading onto the Drum position. The Write pulse motor continues to advance the master with the Separation fan pulling the master into the Stocker room.
- (5) The Print drum stops at Position-A and the Clamp plate opens. The Load pulse motor activates to send the leading edge of the master to the Clamp plate. The Clamp plate closes and clamps the master.
- (6) As the master making ends, the TPH elevates up and the Print drum starts to rotate, wrapping the master material around the Print drum.

Disassembly

1. Removing the Master Making Unit Lock Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Safety switch cover by removing a screw (M4x8 screw; 1 pc).
- (3) Unplug the connector, remove a screw (M3x6 screw; 1 pc) and remove the Master making unit lock sensor.

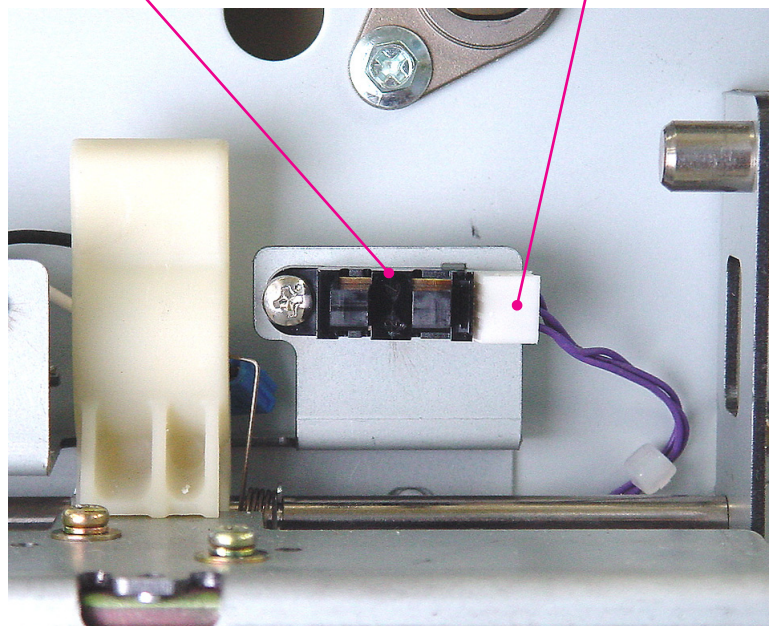


1610

Safety switch cover

Master making unit lock sensor

Connector

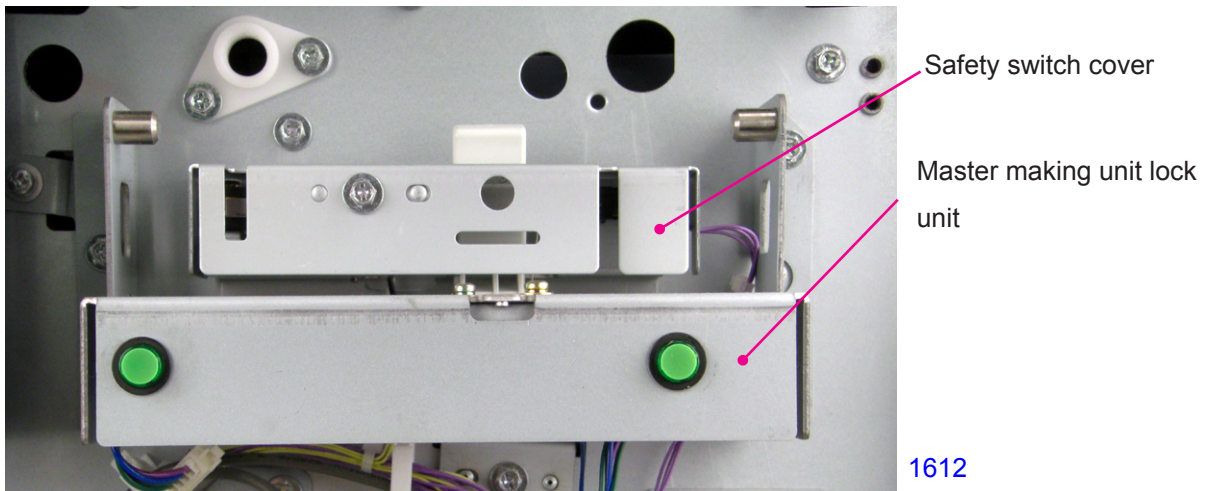


1611

2. Removing the Print Drum, Master Making Unit Release Button, Lock Solenoid, and Safety Switch

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

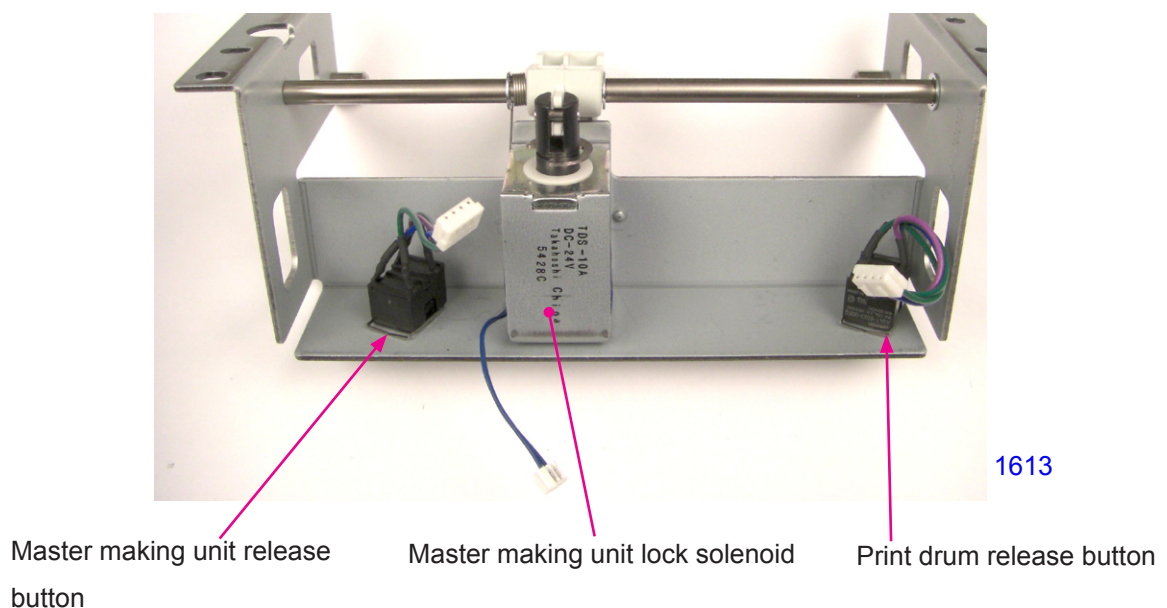
- (1) Remove the Front cover.
- (2) Pull out the Master making unit and switch OFF the machine power.
- (3) Remove the Safety switch cover by removing a screw (M4x8 screw; 1 pc).
- (4) Unplug connectors (3 locations), remove screws (M4x8 screws; 3 pcs) and remove the Master making unit lock unit.

**Removing the Print drum release button and Master making unit release button**

- (5) Undo two hooks on each button from the Master making unit lock unit and remove the buttons.

Removing the Master making unit lock solenoid

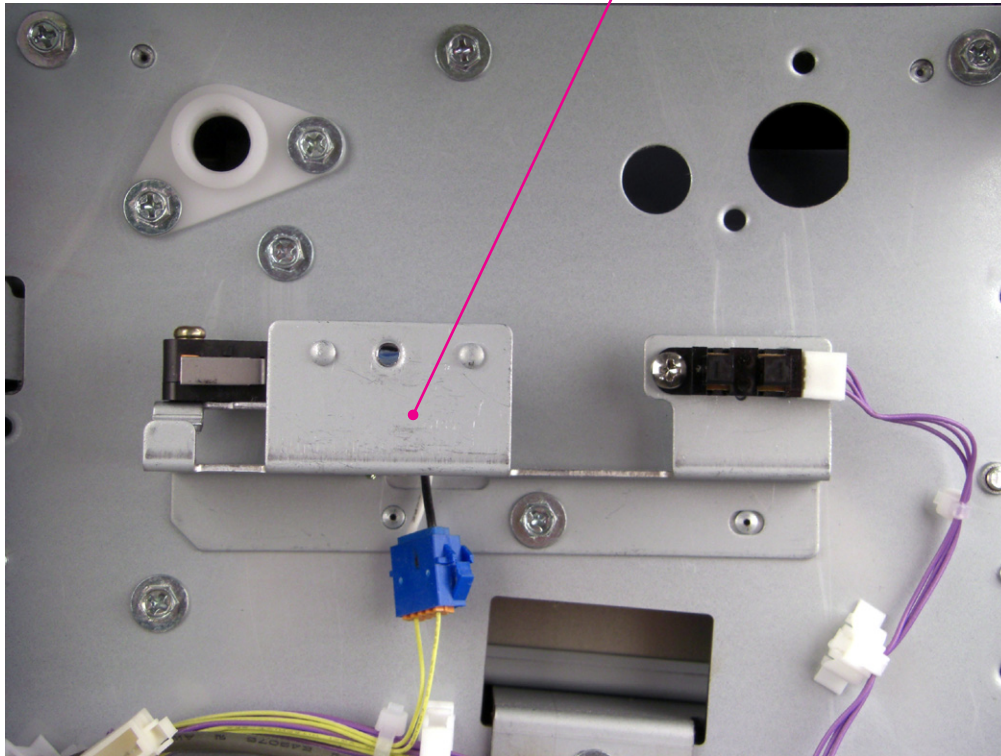
- (5) Remove screws (M3x6 screws; 2 pcs) and remove the Master making unit lock solenoid.



Removing the Master making unit safety switch

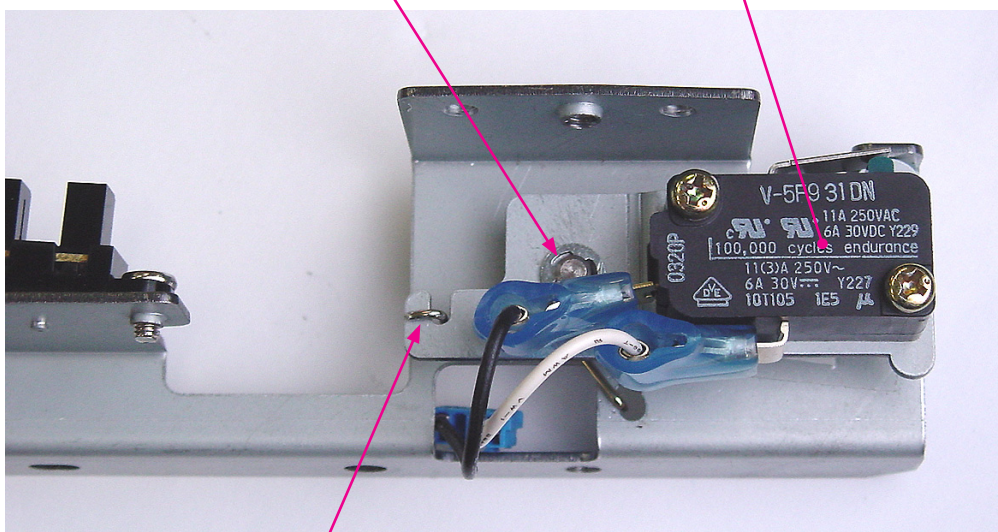
- (5) Unplug the connectors (2 locations), remove a screw (M4x8 screw; 1 pc) and remove the Master making unit safety switch assembly.
- (6) Unhook the Torsion spring, remove an E-ring and remove the Master making unit safety switch together with the bracket.
- (7) Remove the Master making unit safety switch from the bracket.

Master making unit safety switch assembly



1614

E-ring Master making unit safety switch



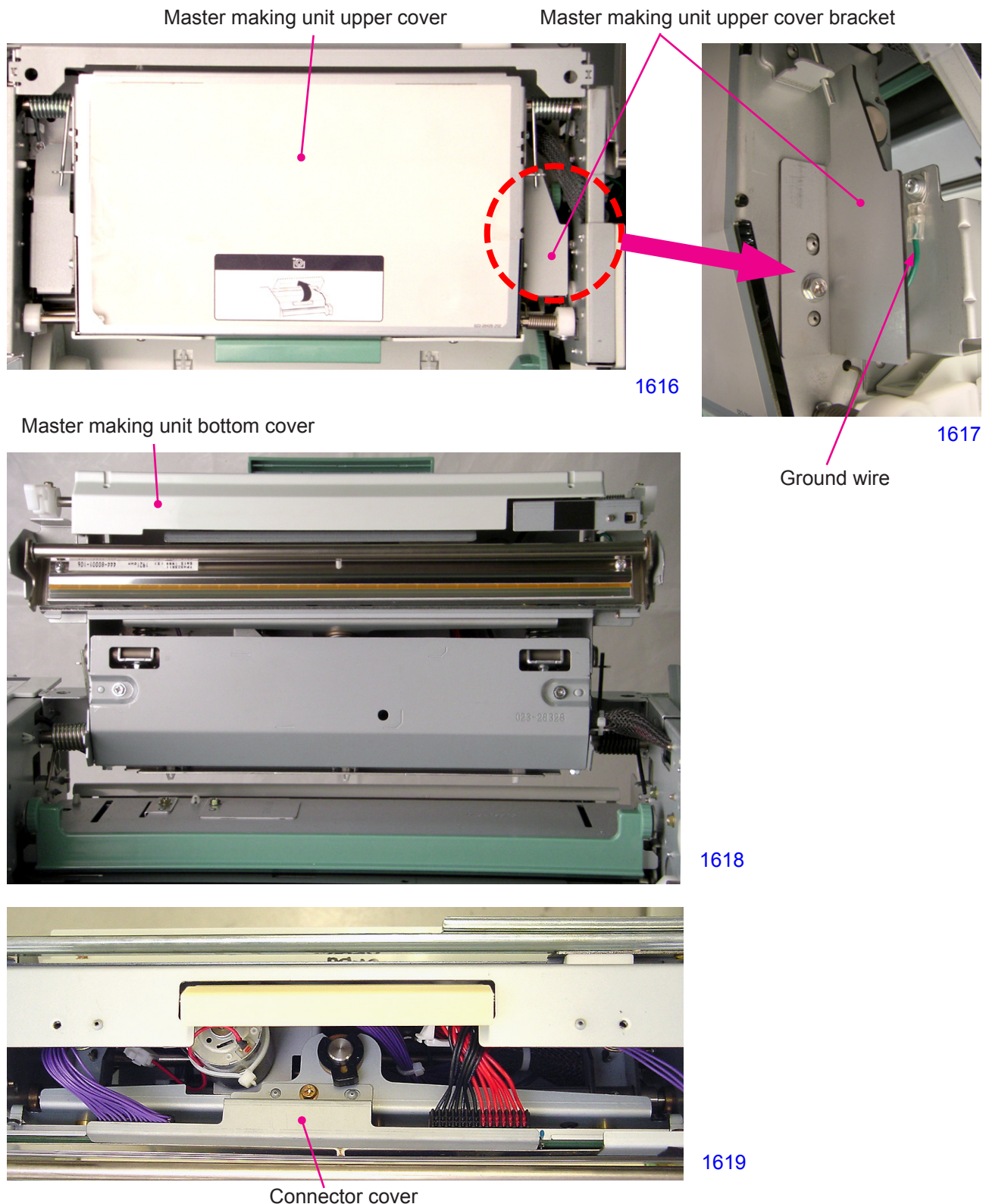
1615

Torsion spring

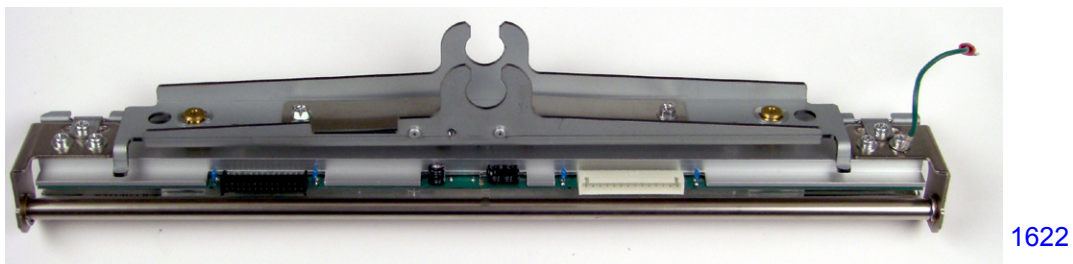
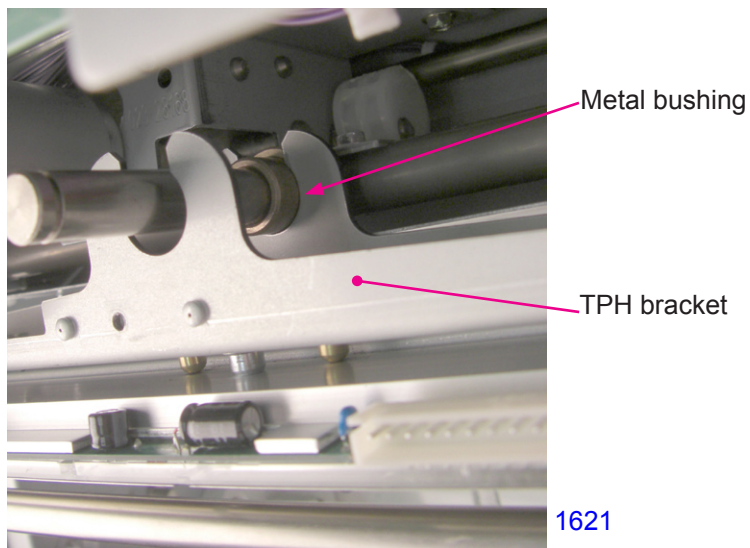
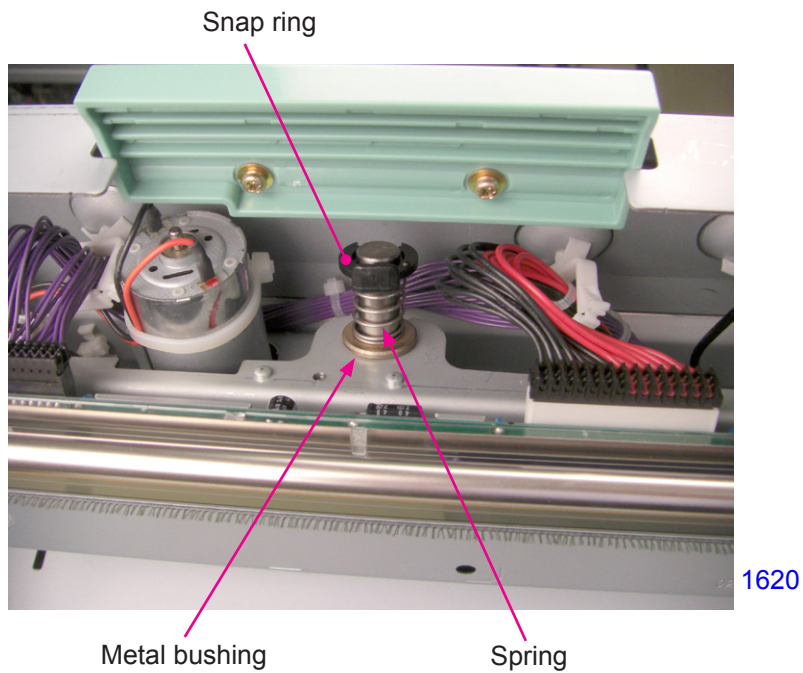
3. Removing the TPH (Thermal Print Head) Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover.
- (3) Detach the Master making unit upper cover bracket by removing a screw (M3x6 screw; 1 pc).
- (4) Disconnect the Ground wire by removing a screw (M3x6 screw; 1 pc).
- (5) Remove the Master making unit bottom cover by removing screws (M3x6 screws; 2 pcs).
- (6) Remove the Connector cover by removing a screw (M3x6 screw; 1 pc).



- (7) Unplug the connectors (2 locations), remove the Snap ring, Spring and Metal bushing.
- (8) Slide off the Metal bushing from the TPH bracket and remove the Thermal print head assembly.

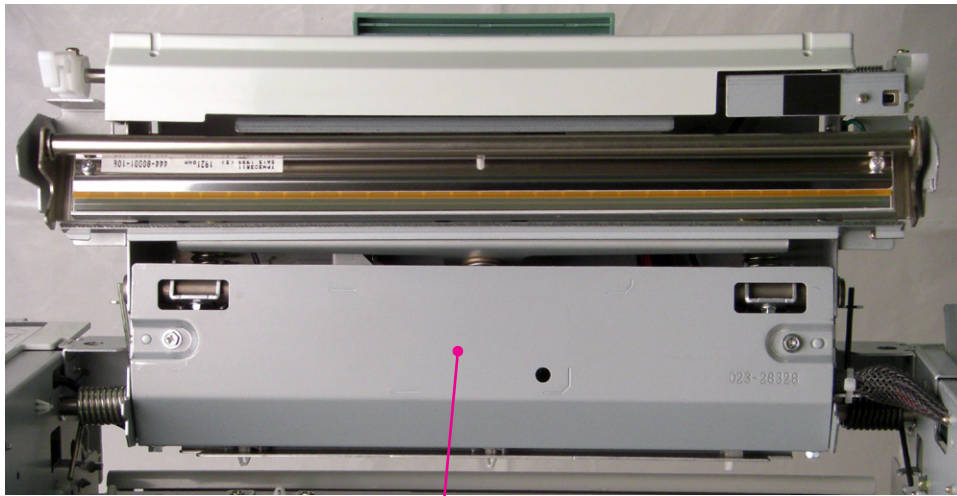


< Thermal Print Head Assembly >

4. Removing the Thermal Pressure Motor Assembly

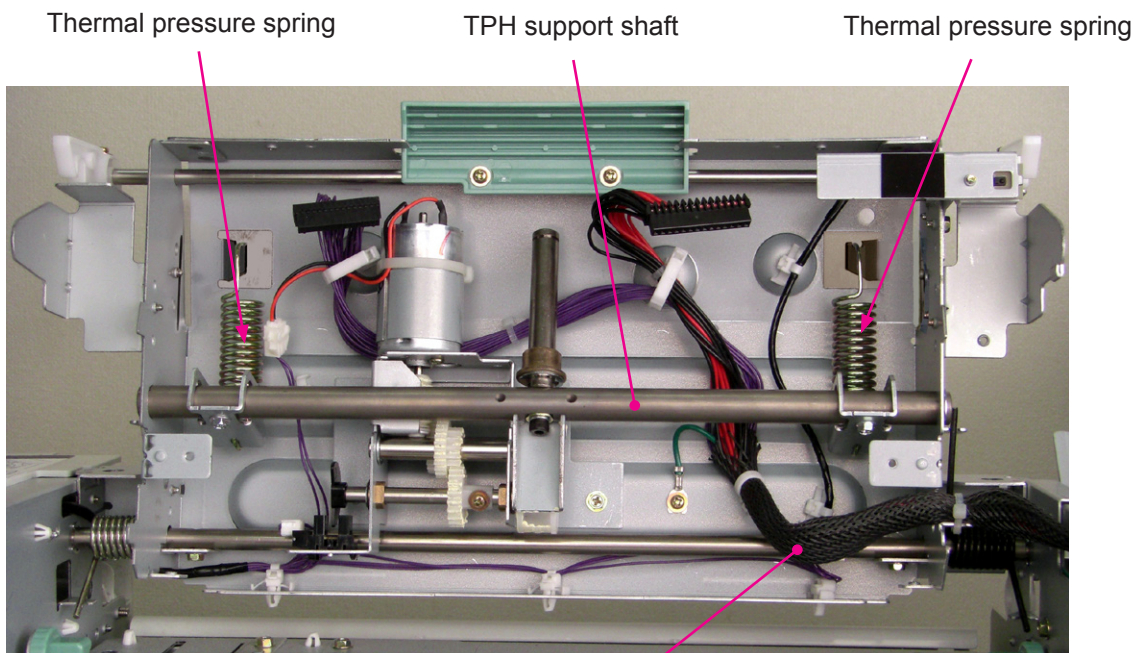
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Thermal print head assembly.
- (3) Remove the Thermal pressure gear cover by removing screws (M3x6 screws; 4 pcs).
- (4) Remove the two Thermal pressure springs.
There are two kinds of Thermal pressure springs and they are distinguishable by color.
Black : B4 machine Silver : A3 machine
- (5) Remove E-rings from both ends of the TPH support shaft, and remove the shaft.



Thermal pressure gear cover

1618

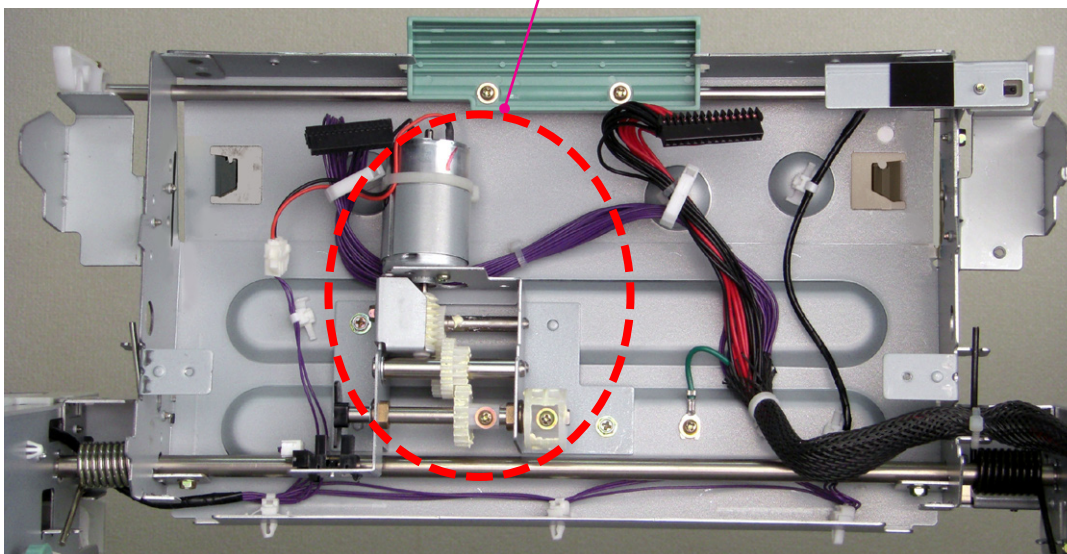


No slacking on the Wire-harness.

1623

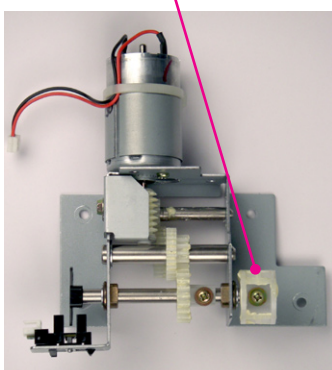
- (6) Remove the Thermal pressure motor assembly by disconnecting the connectors to the motor and sensor, and removing screws (M3x6 screws; 2 pcs).
- (7) Remove the Thermal pressure cam by removing a screw (M3x6 screw; 1 pc).
- (8) Remove the Cam shaft assembly by removing an E-ring (4mm diameter; 1 pc), one Metal bushing and one screw (M3x6 screw; 1 pc).
- (9) Remove the Spur gear and Shaft by removing an E-ring (6mm diameter; 1 pc).
- (10) Remove the Spur gear and Shaft by removing an E-ring (4mm diameter; 1 pc).
- (11) Remove the Spur gear and Shaft by removing two E-rings (4mm diameter; 2 pcs).
- (12) Remove the Worm gear bracket by removing a screw (M3x6 screw; 1 pc).
- (13) Remove the Thermal pressure motor by removing screws (M3x5 screws; 2 pcs).

Thermal pressure motor assembly



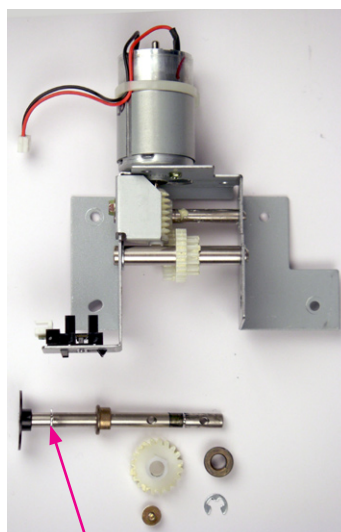
1624

Thermal pressure cam



1625

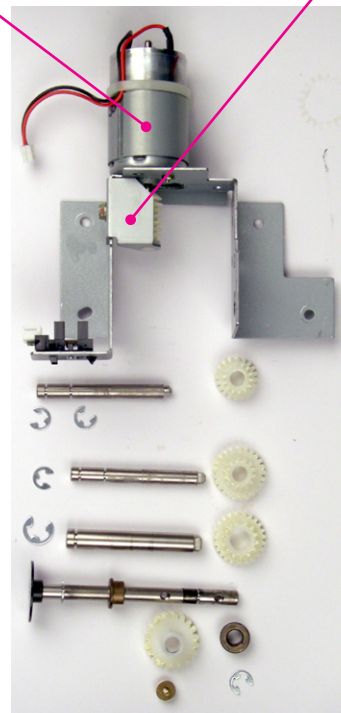
Thermal pressure motor



1626

Cam shaft assembly

Worm gear bracket



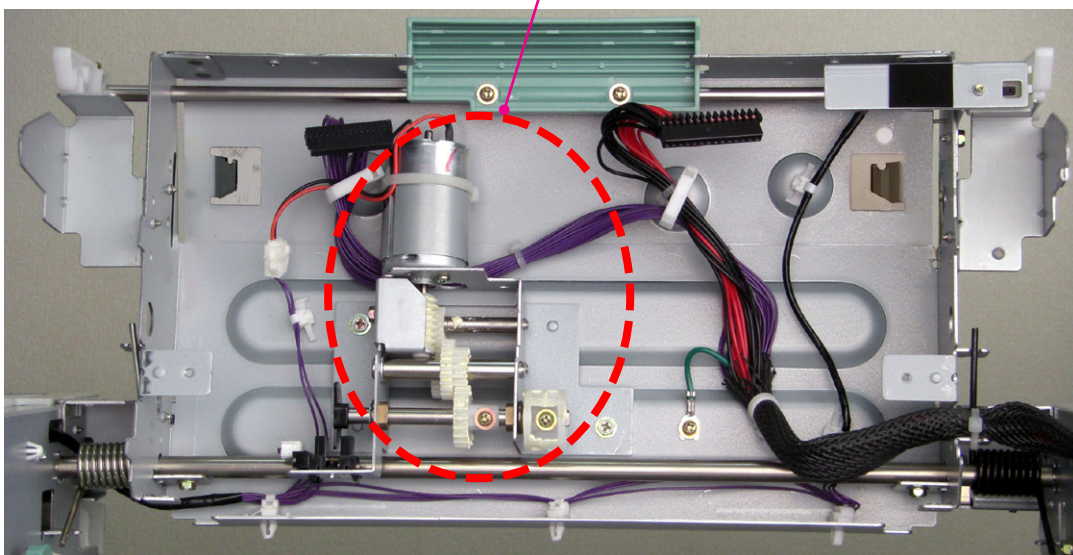
1627

5. Removing the Thermal Pressure Motor FG Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

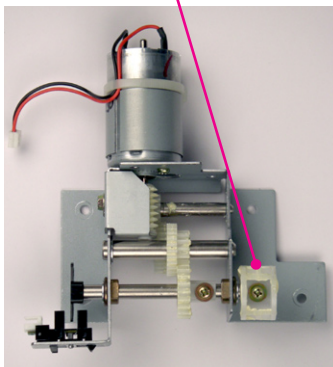
- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Thermal print head assembly.
- (3) Remove the Thermal pressure gear cover by removing screws (M3x6 screws; 4 pcs).
- (4) Remove the two Thermal pressure springs.
There are two kinds of Thermal pressure springs and they are distinguishable by a color.
Black : B4 machine Silver : A3 machine
- (5) Remove E-rings (8mm diameter; 2 pcs) from both ends of the TPH support shaft, and remove the shaft.
- (6) Remove the Thermal pressure motor assembly by disconnecting the connectors to the motor and sensor, and removing screws (M3x6 screws; 2 pcs).
- (7) Remove the Thermal pressure cam by removing a screw (M3x6 screw; 1 pc).
- (8) Remove the Cam shaft assembly by removing an E-ring (4mm diameter; 1pc), one Metal bushing and one screw (M3x6 screw; 1 pc).
- (9) Remove the Thermal pressure motor FG sensor.

Thermal pressure motor assembly

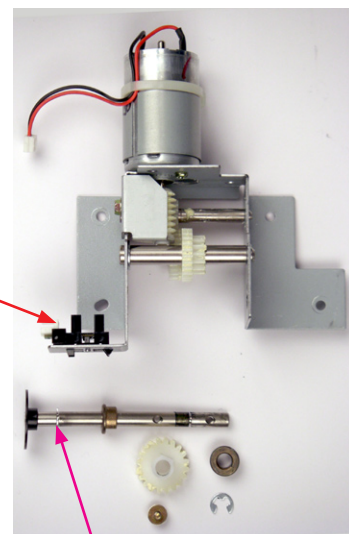


1624

Thermal pressure cam



1625

Thermal pressure motor
FG sensor

1626

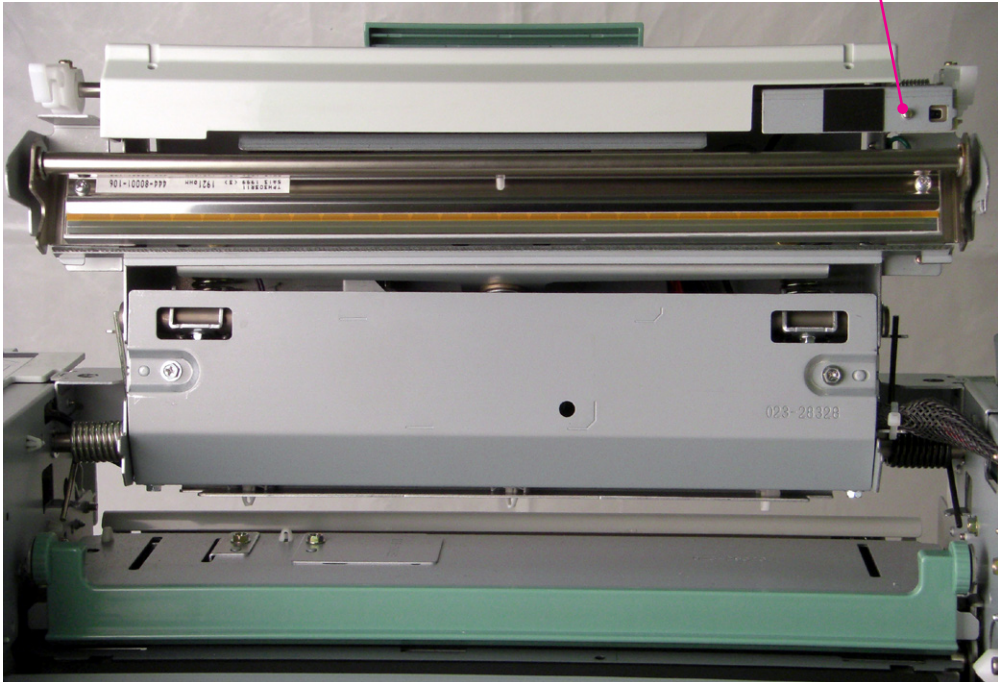
Cam shaft assembly

6. Removing the Master End Sensor (receive) Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

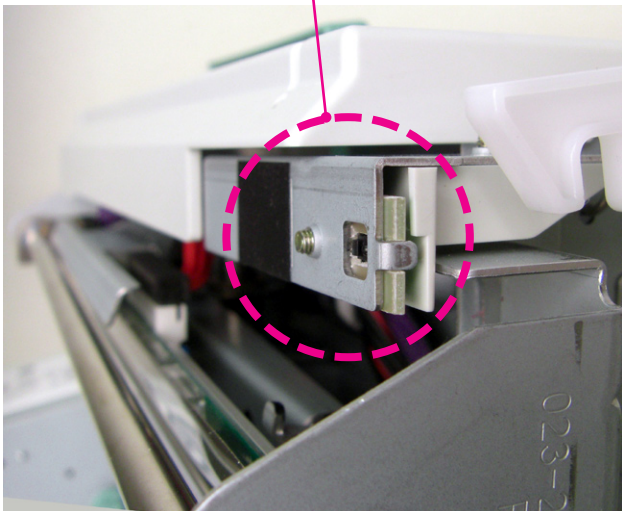
- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover.
- (3) Remove a screw (M3x6 screw; 1 pc), unplug the sensor connector and remove the Master end sensor (receive) assembly.

Master end sensor (receive) assembly

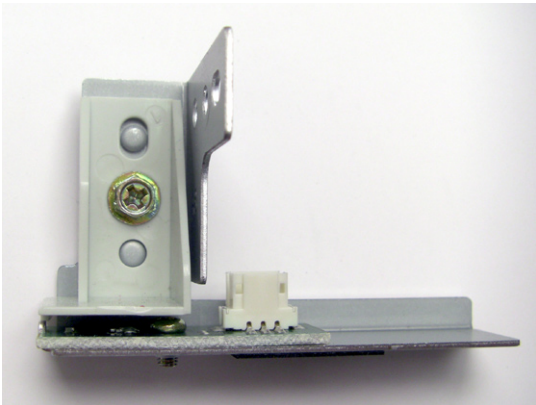


1618

Master end sensor (receive) assembly



1628



1629

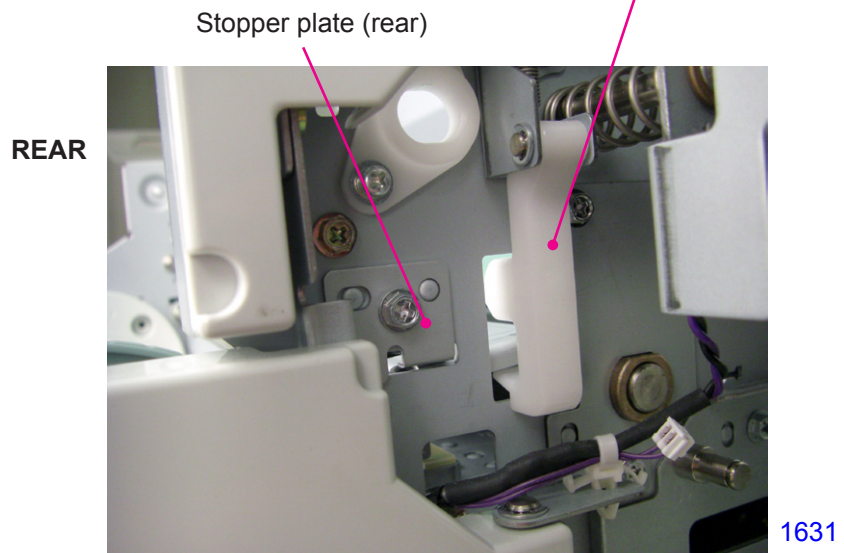
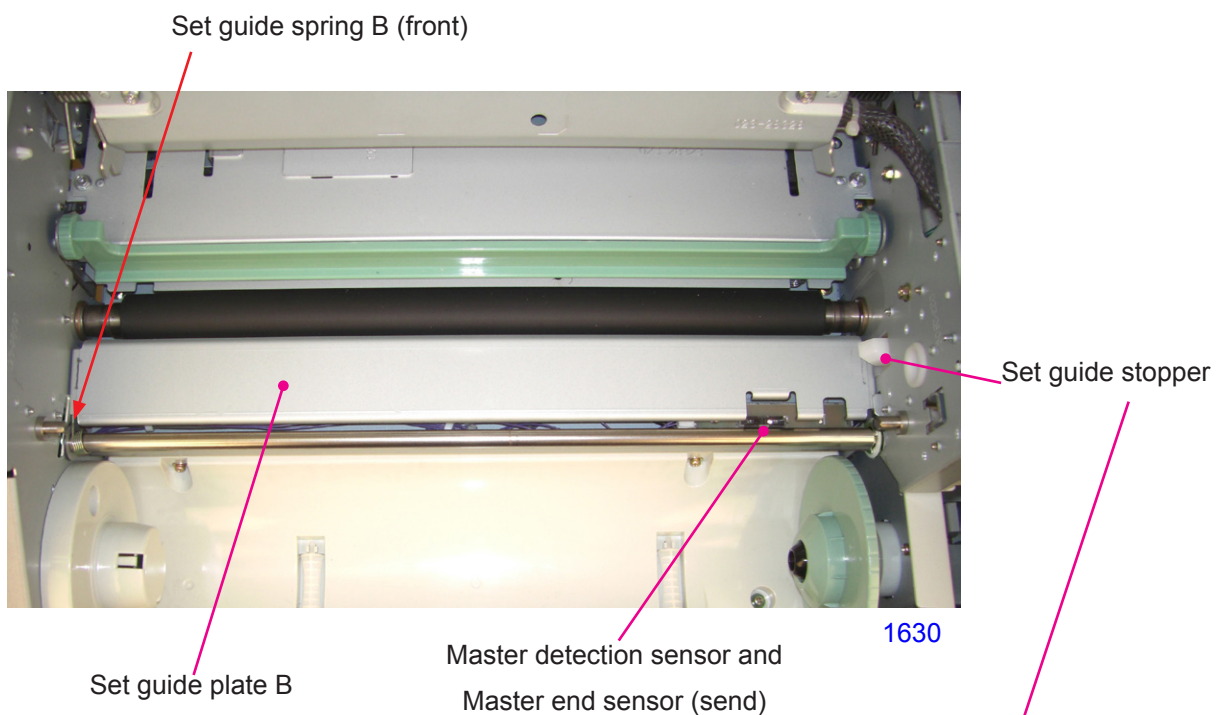
< Master End Sensor (Receive) Assembly >

7. Removing the Master Detection Sensor and Master End Sensor (send)

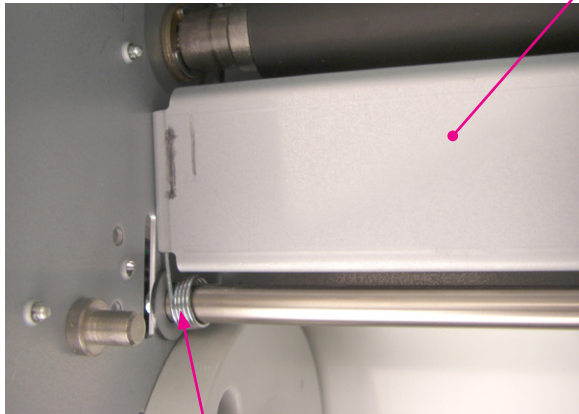
EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove the master roll.
- (3) Remove the Master making unit front cover by removing screws (M4x8 screws; 4 pcs).
- (4) Remove the Stopper plate (rear) by removing a screw (M3x6 screw; 1 pc).
<CAUTION: Since the Set guide plate B is forced up by Set guide spring B (front), press down the Set guide plate B when removing the Stopper plate (rear).>
- (5) Remove the Master detection sensor and Master end sensor (send) together with the bracket by removing a screw (M3x6 screw; 1 pc) while lifting up the Set guide plate B after pushing the Set guide stopper to the rear by finger.

Step (6) and explanation photographs continue on next page.



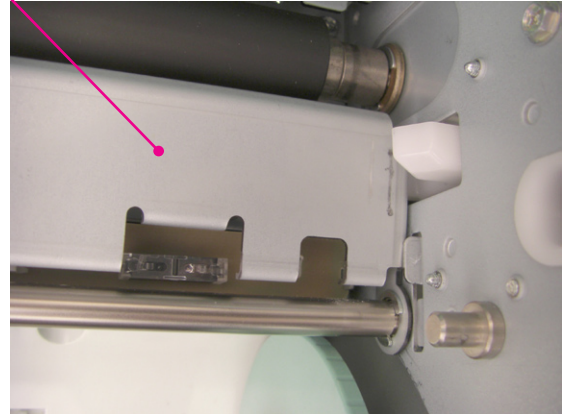
FRONT



Set guide spring B (front)

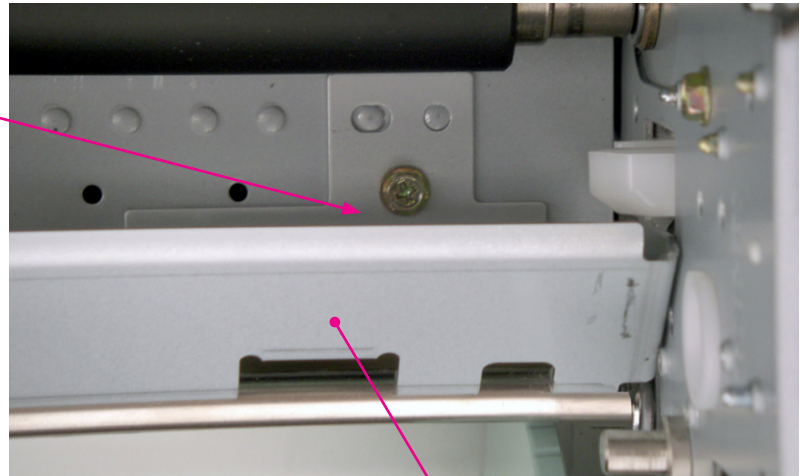
1632

REAR



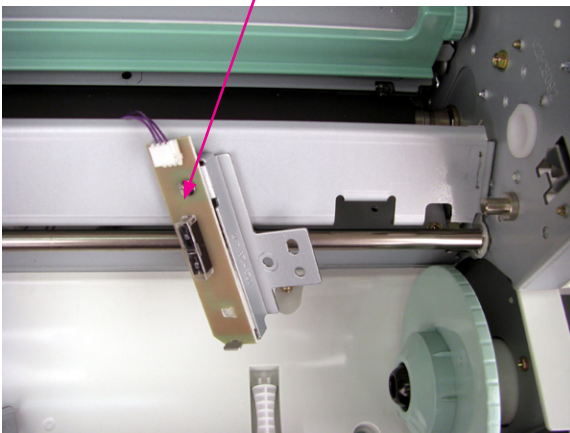
1633

Master detection sensor and
Master end sensor (send)



Set guide plate B

1634



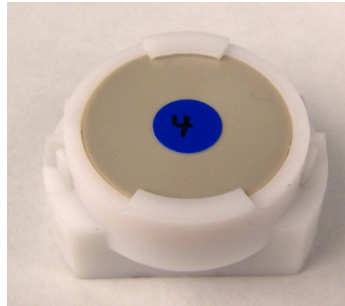
1635

- (6) Remove the Master detection sensor and Master end sensor (send) by disconnecting a connector and removing a screw (M3x6 screw; 1 pc).

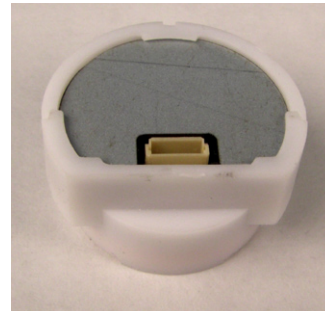
8. Removing the Antenna Module

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Master making unit front cover by removing screws (M4x8 screws; 4 pcs).
- (3) Remove the Master making PCB by removing screws (M3x6 screws; 2 pcs).
- (4) Unplug the connector and remove the Front master flange (G) by removing screws (M3x8 screws; 2 pcs).
- (5) Remove the Antenna module holder by removing screws (M3x8 screws; 2 pcs) and take out the Antenna module.

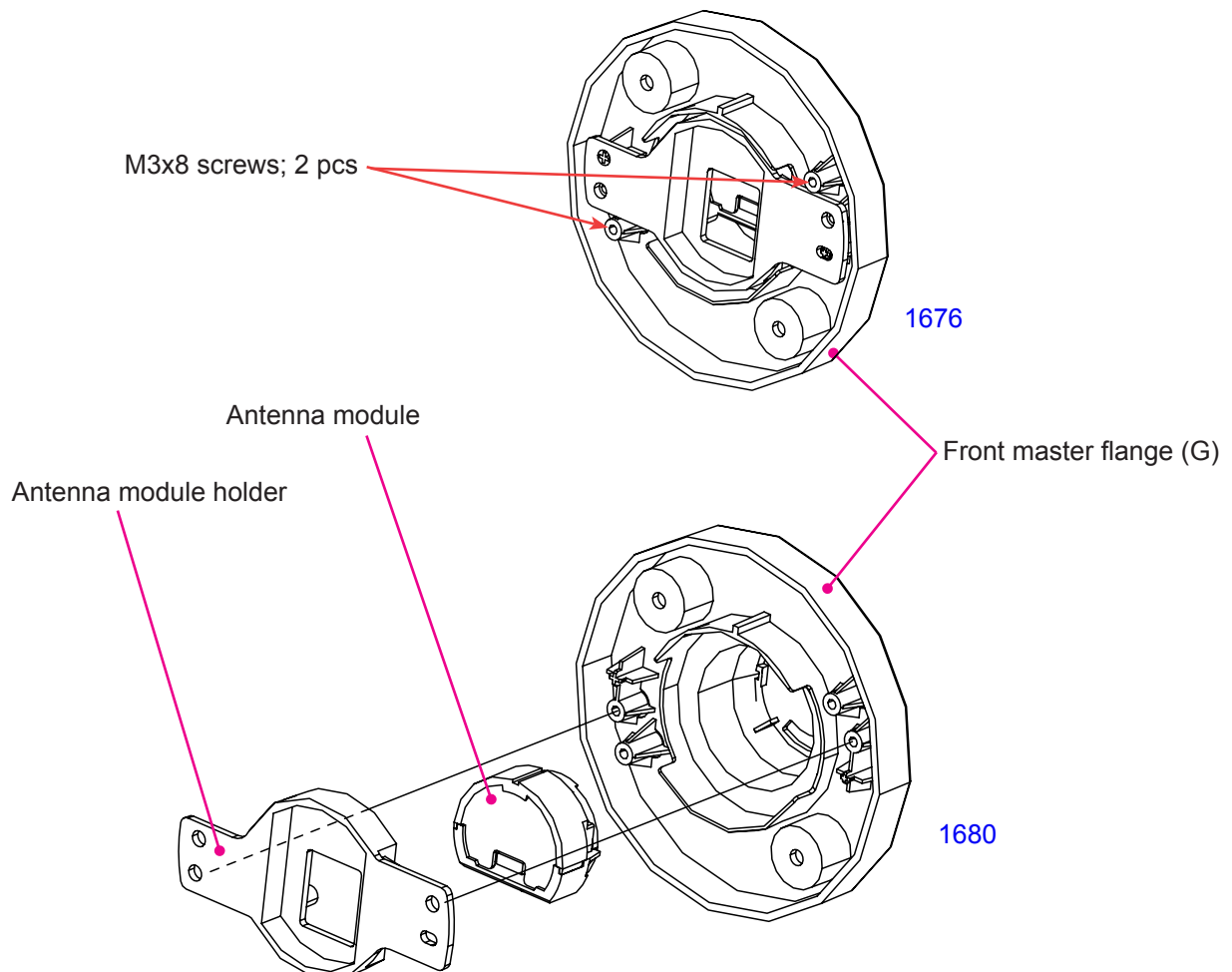


1674



1675

< Antenna Module >



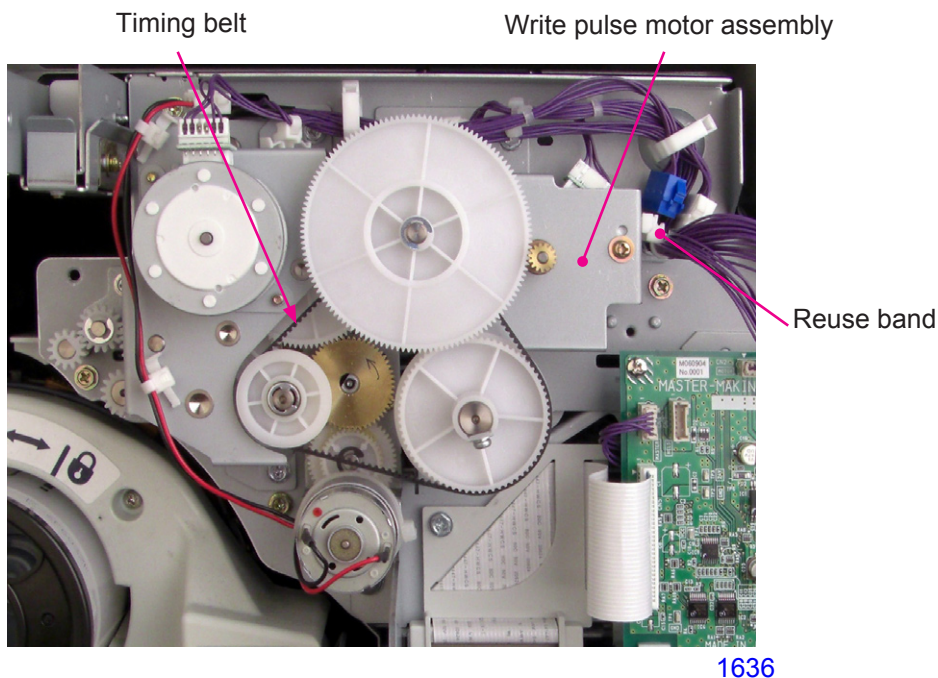
9. Removing the Write Pulse Motor Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

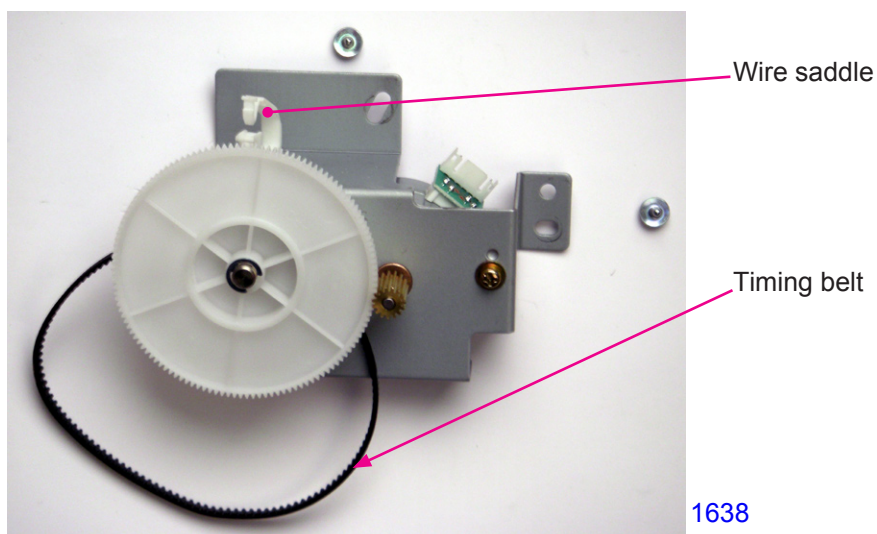
- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Master making unit front cover by removing screws (M4x8 screws; 4 pcs).
- (3) Unhook wire harness from the Wire saddle on the bracket of the Write pulse motor.
- (4) Remove the Reuse band from the bracket of the Write pulse motor and unplug the connector from the Write pulse motor.
- (5) Remove screws (M3x6 screws; 2 pcs) and remove the Write pulse motor assembly together with the Timing belt.
- (6) Remove the Spur gear by removing an E-ring (4mm diameter; 1 pc).
- (7) Remove the Write pulse motor from the bracket by removing screws (M3x6 screws; 2 pcs).

< Precaution in Reassembly >

When installing the Write pulse motor assembly back on the machine, screw on the motor assembly on the machine loosely. Then rotate the whole motor assembly in clockwise direction to apply tension on the Timing belt. With adequate tension applied on the Timing belt, securely tighten the mounting screws.



1636



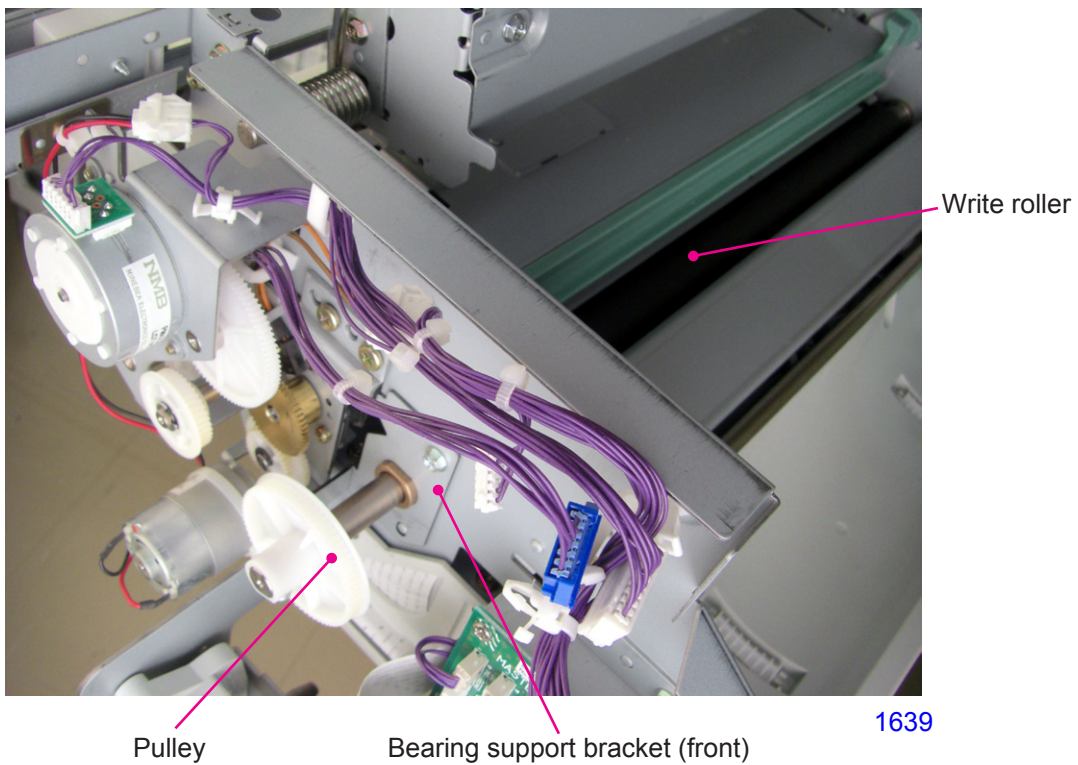
1638

< Write Pulse Motor Assembly >

10. Removing the Write Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following items.
 - Master roll
 - Master making unit front cover
 - Write pulse motor assembly
- (3) Remove the Write roller pulley by removing a screw (M3x8 screw; 1 pc).
- (4) Remove the Bearing support bracket (front) by removing screws (M3x6 screws; 2 pcs).
- (5) Gently pull out the Write roller through the opening on the front Side frame.



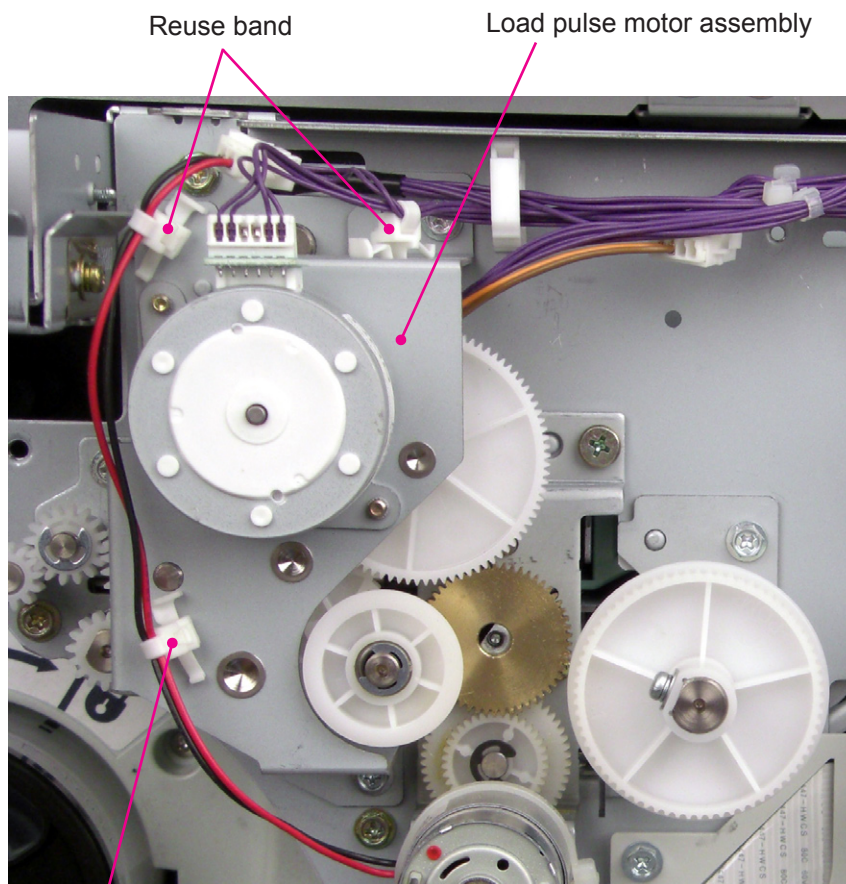
< Write Roller >

1640

11. Removing the Load Pulse Motor Assembly

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

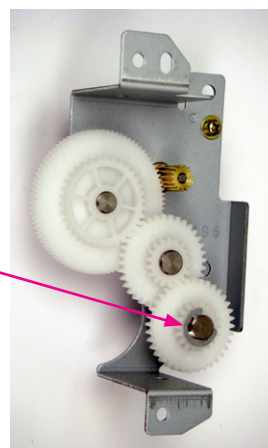
- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following items.
 - Master roll
 - Master making unit front cover
 - Write pulse motor assembly
- (3) Remove the reuse bands (3 locations) from the bracket of the Load pulse motor and unplug the Load pulse motor connector.
- (4) Remove screws (M3x6 screws; 2 pcs) and remove the Load pulse motor assembly.
- (5) Remove the Spur gear by removing an E-ring (6mm diameter; 1 pc).
- (6) Remove the Load pulse motor by removing screws (M3x6 screws; 2 pcs).



1641

Reuse band

E-ring



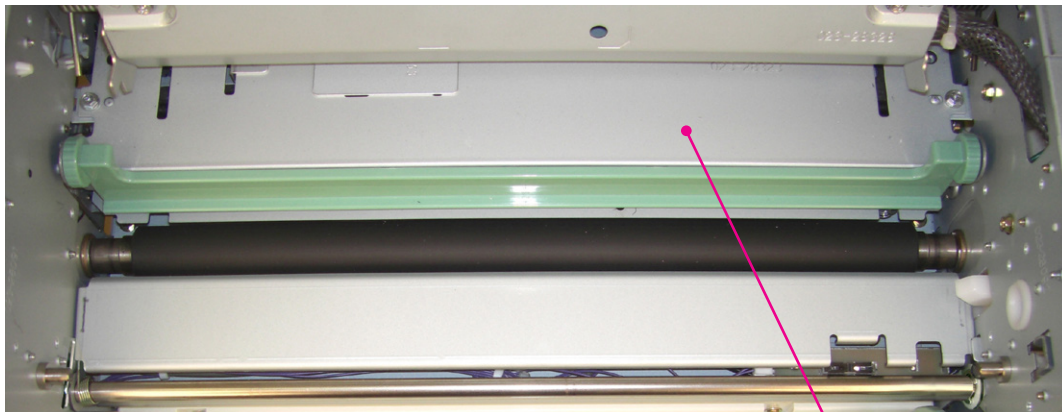
1642

< Load Pulse Motor Assembly Inner side view >

12. Removing the Cutter Cover Assembly

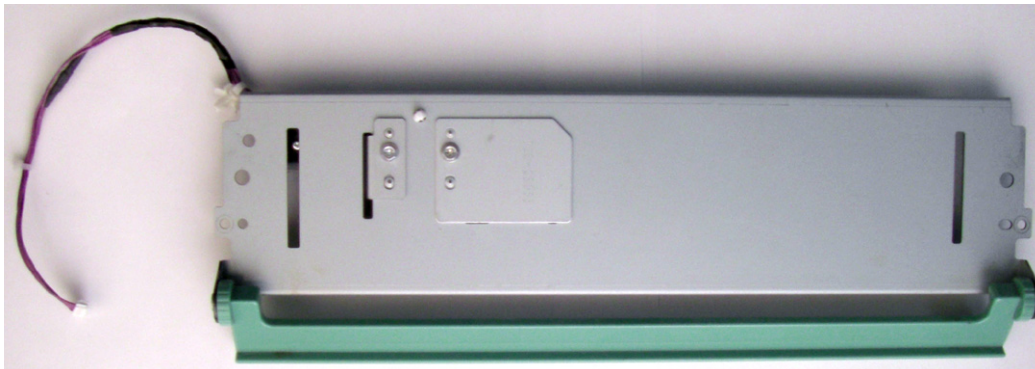
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following items.
 - Master roll
 - Master making unit front cover
 - Write pulse motor assembly
 - Load pulse motor assembly
- (3) Unplug the sensor connector, remove screws (M3x6 screws; 2 pcs), and remove the Cutter cover assembly while pulling out the wire harness from the hole on the machine side frame.



1630

Cutter cover assembly

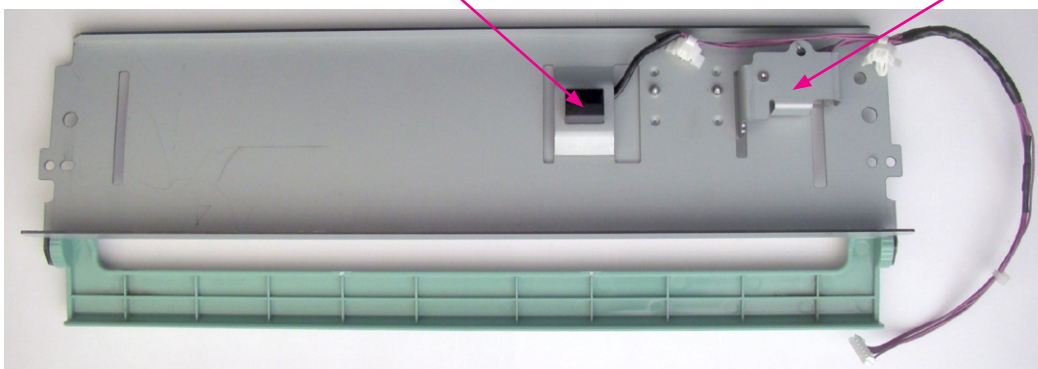


1643

< Cutter Cover Assembly >

Master positioning sensor

Master making unit upper cover safety switch



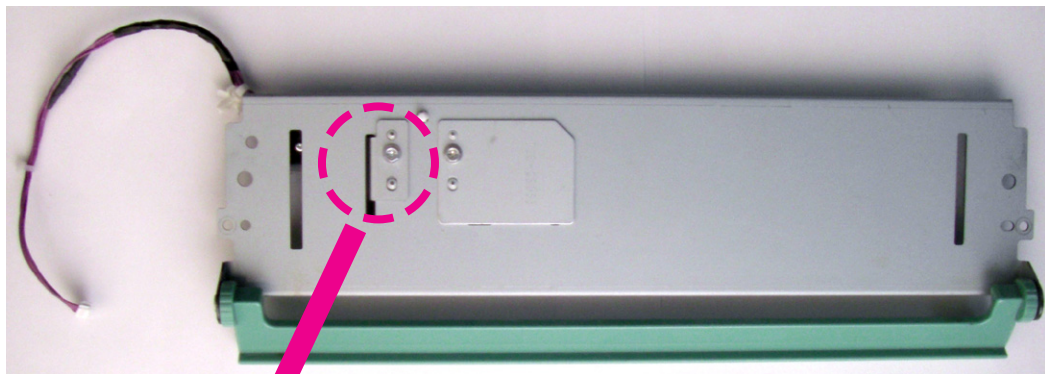
1644

< Cutter Cover Assembly Back side view >

13. Removing the Master Making Unit Upper Cover Safety Switch

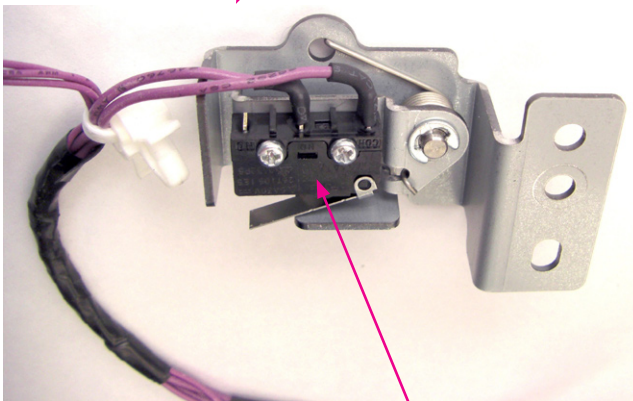
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following item.
 - Cutter cover assembly
- (3) Unplug the connector, remove a screw (M3x6 screw; 1 pc) and remove the Master making unit upper cover safety switch.



1643

< Cutter Cover Assembly >



1645

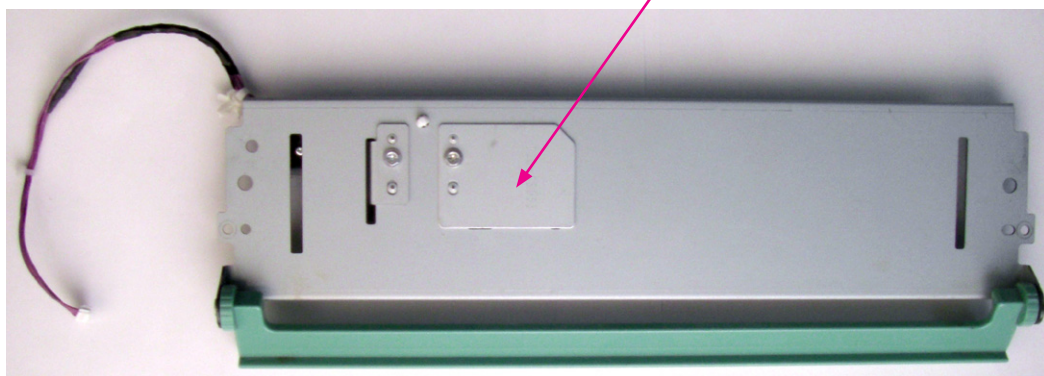
Master making unit upper cover safety switch

14. Removing the Master Positioning Sensor

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following item.
 - Cutter cover assembly
- (3) Remove the Master Positioning sensor cover by removing a screw (M3x6 screw; 1 pc).
- (4) Unplug the connector and remove the Master positioning sensor.

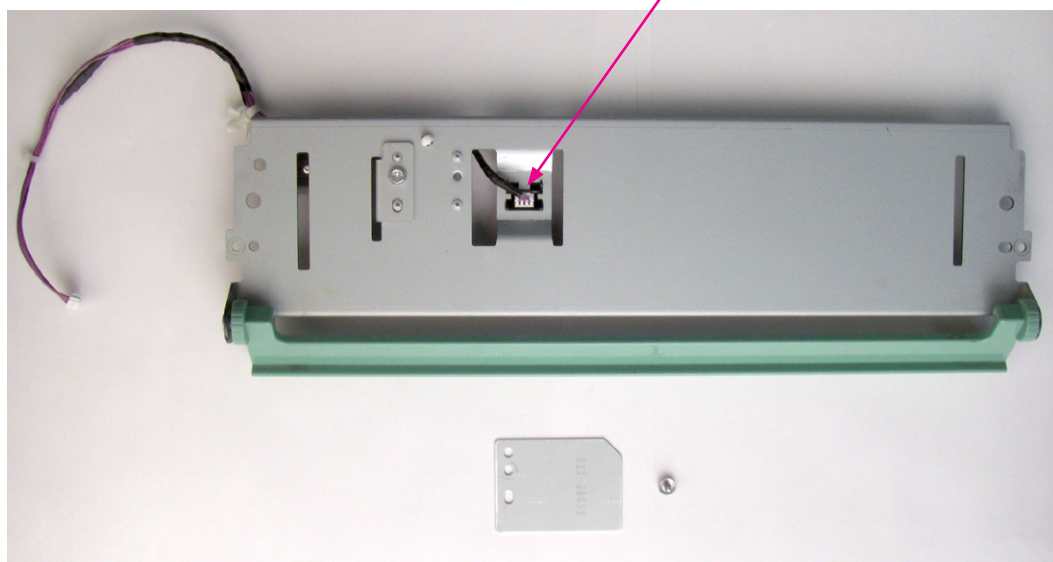
Master positioning sensor cover



1643

< Cutter Cover Assembly >

Master positioning sensor



1646

15. Removing the Master Loading Roller

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

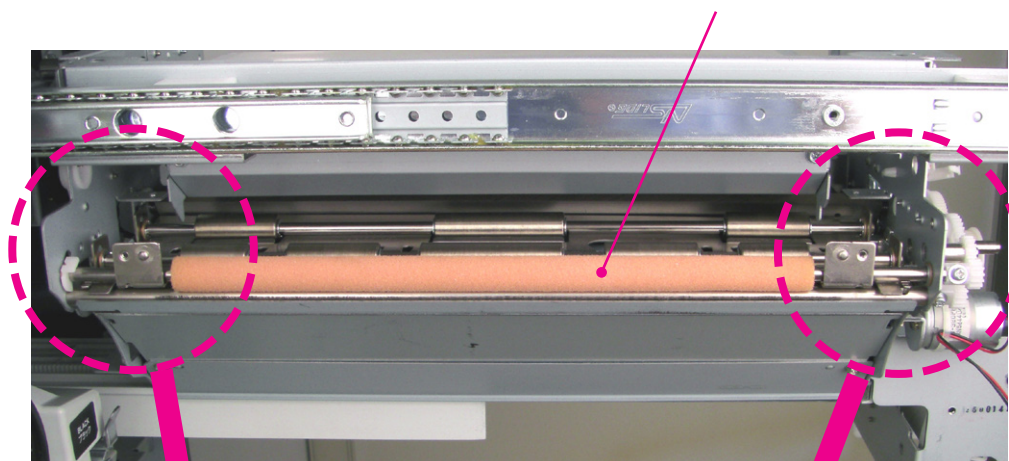
- 1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Master making unit front cover by removing screws (M4x8 screws; 4 pcs).
- (3) Remove the Master loading guide by removing screws (M3x8 screws; 2 pcs).
- (4) Remove the Spur gear by removing a screw (M3x8 screw; 1 pc).
- (5) Remove the Snap ring on the rear, unhook the Metal bushing from the rear frame and slide it inward. Slide the Master loading roller towards the rear and unhook the Metal bushing from the front frame. Remove the Master loading roller from the machine.



1647

Master loading guide

Master loading roller

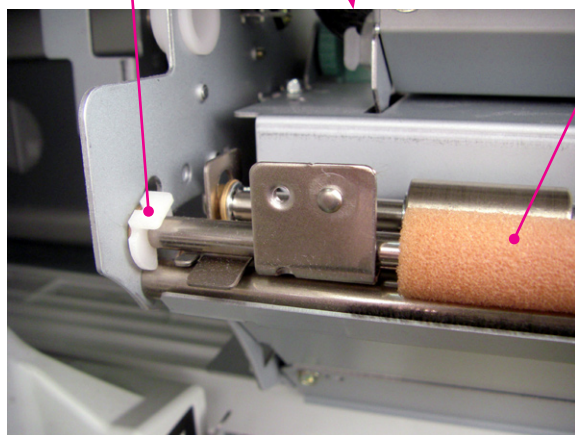


1648

Snap ring

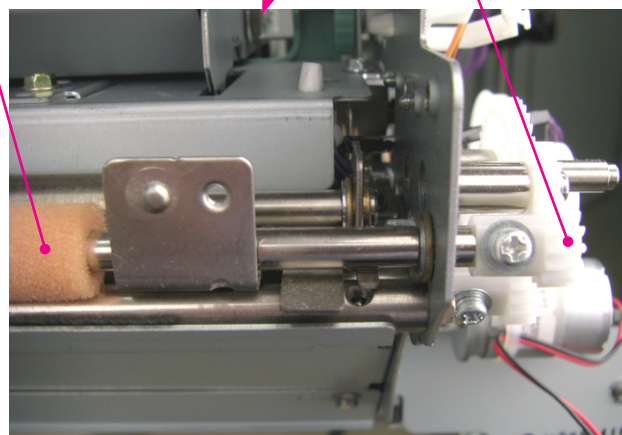
Master loading roller

Spur gear



< REAR >

1649



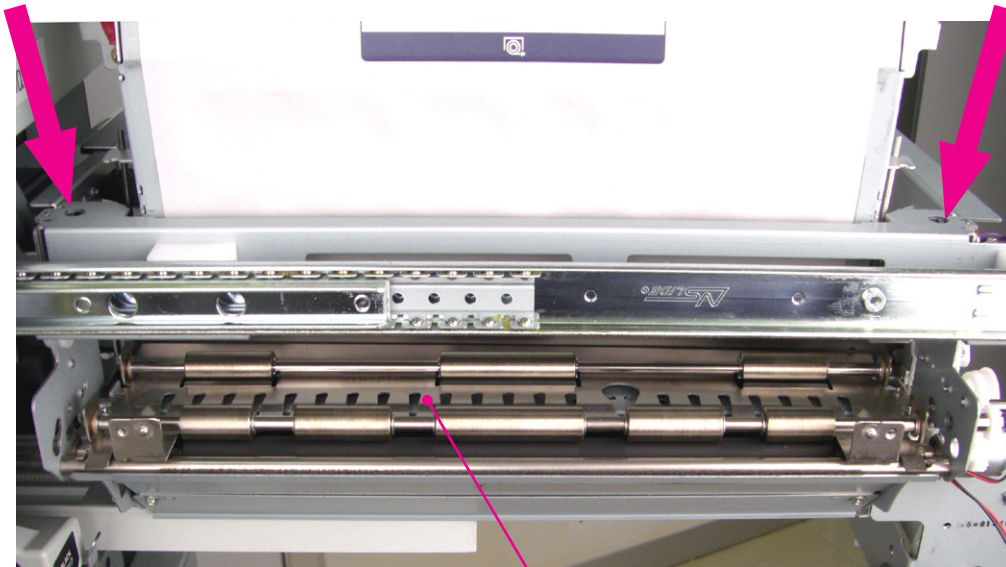
< FRONT >

1650

16. Removing the Cutter Guide Assembly

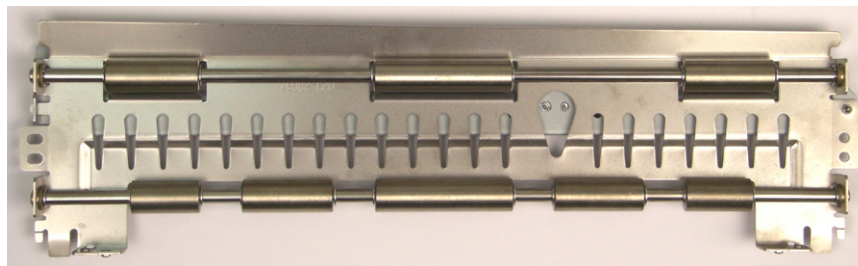
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following items.
 - Master roll
 - Master making unit front cover
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Cutter cover assembly
 - Master loading guide
 - Master loading roller
- (3) Remove the Cutter guide assembly by removing screws (M3x6 screws; 2 pcs).



Cutter guide assembly

1651



< Cutter guide assembly (TOP VIEW) >

1653



1652



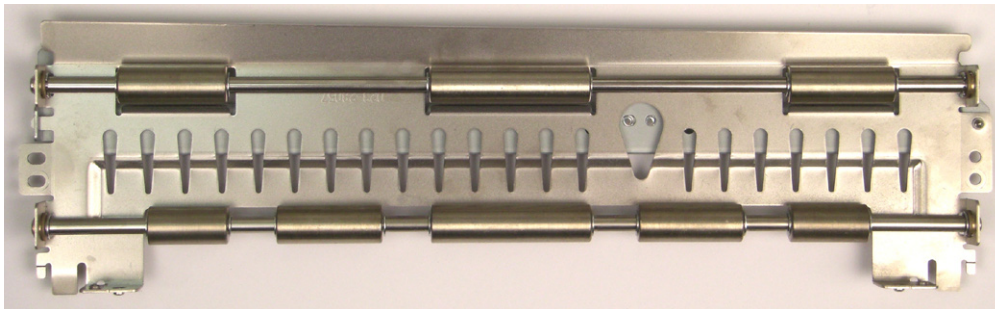
< Cutter guide assembly (BOTTOM VIEW) >

1654

17. Removing the Master Positioning Sensor

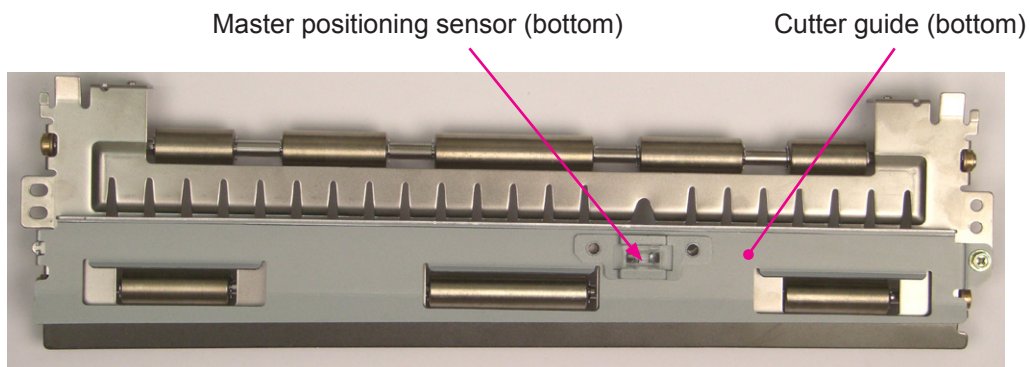
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following item.
 - Cutter cover assembly
- (3) Remove the Cutter guide (bottom) by removing a screw (M3x6 screw; 1 pc).
- (4) Remove the Master positioning sensor from the Cutter guide (bottom).



< Cutter guide assembly (TOP VIEW) >

1653



< Cutter guide assembly (BOTTOM VIEW) >

1654

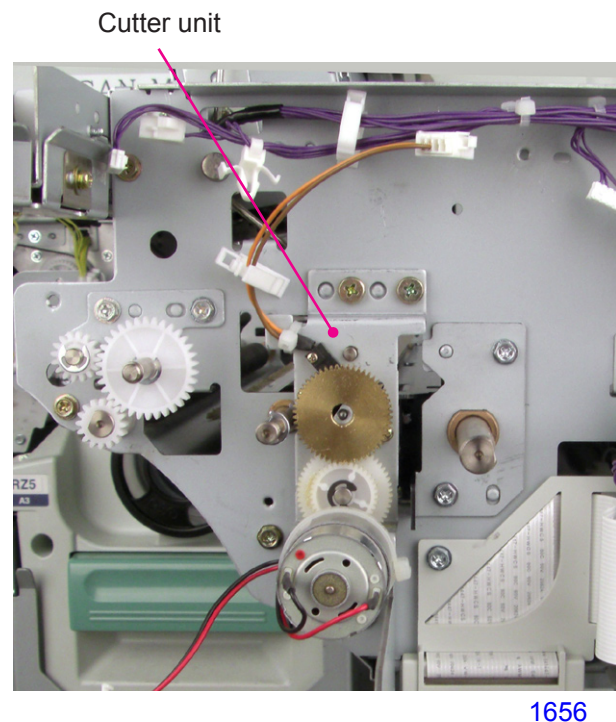
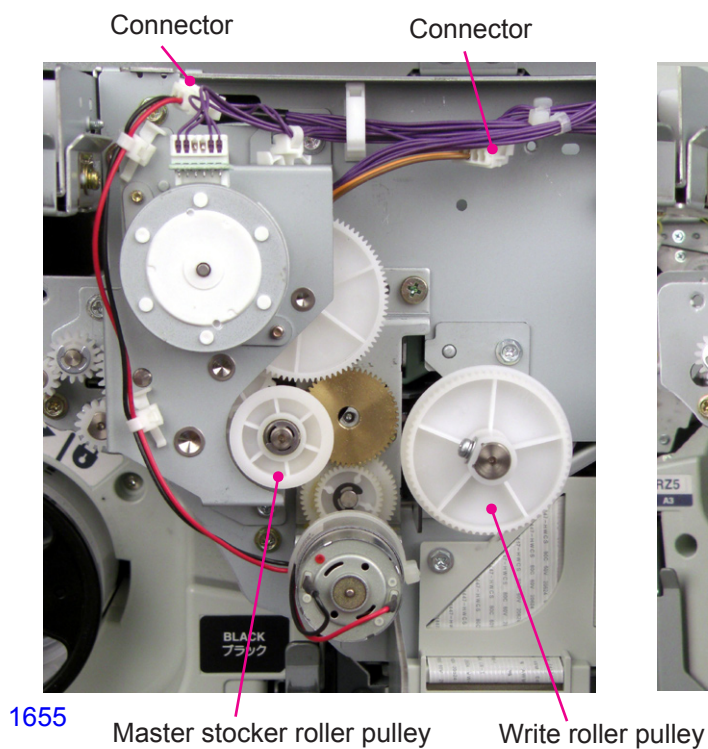
18. Removing the Cutter Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

The cutter unit shown on this page is a rotary cutter.
Shuttle cutter is used on EZ3 with Print Drums smaller than A3/Ledger size and on all RZ2 and RV2 series.

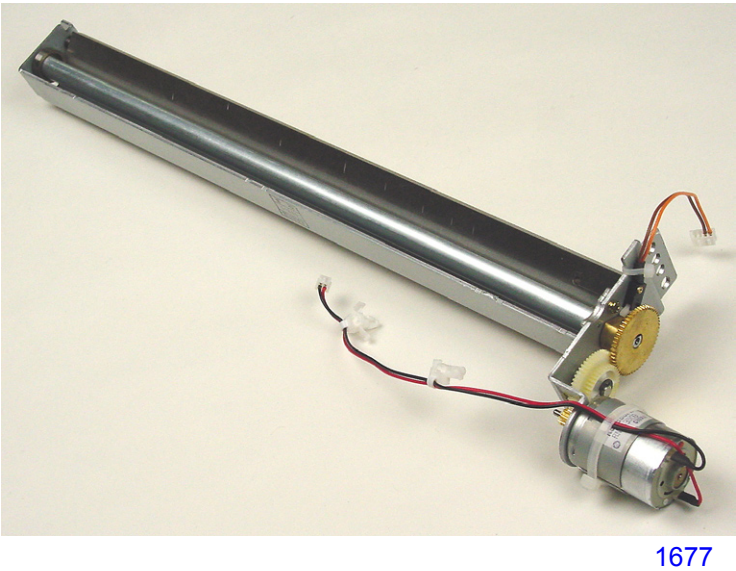
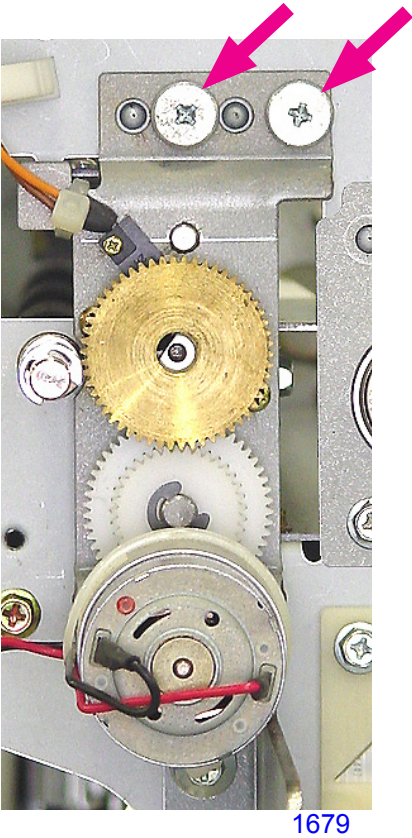
- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following items.
 - Master roll
 - Master making unit front cover
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Cutter cover assembly
 - Master loading guide
 - Master loading roller
 - Cutter guide assembly
 - Write roller pulley
 - Master stocker roller pulley
- (3) Remove the Cutter unit by unplugging the connectors (2 locations) and removing two Shoulder screws (In case of the shuttle type cutter - remove a screw (M3x6 screw; 1 pc).

Refer to the photographs on the next page.

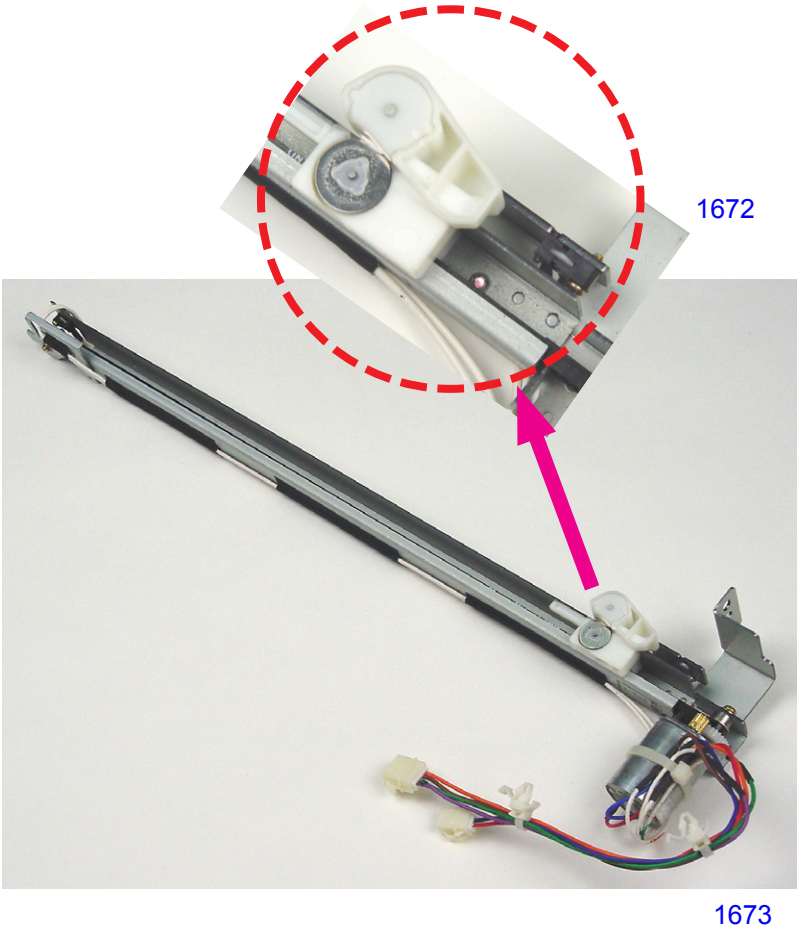
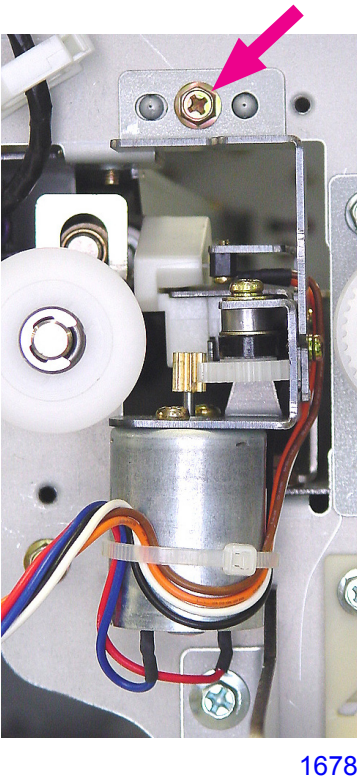


< Cutter Unit (Rotary) >

Rotary Cutter



Shuttle Cutter



19. Removing the Load Roller (Bottom)

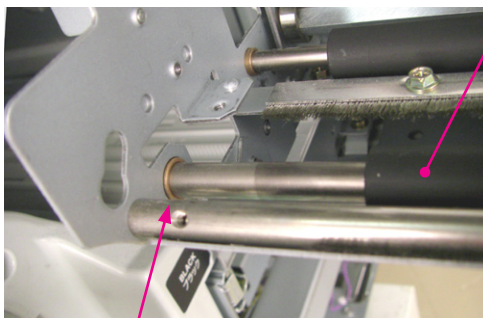
EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Open the Master making unit upper cover and remove following items.
 - Master roll
 - Master making unit front cover
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Cutter cover assembly
 - Master loading guide
 - Master loading roller
 - Cutter guide assembly
- (3) Remove the Spur gear by removing a screw (M3x8 screw; 1 pc).
- (4) Remove the Road roller (bottom) by removing an E-ring from both ends of the roller (6mm diameter; 1 pc each) and Metal bushings.



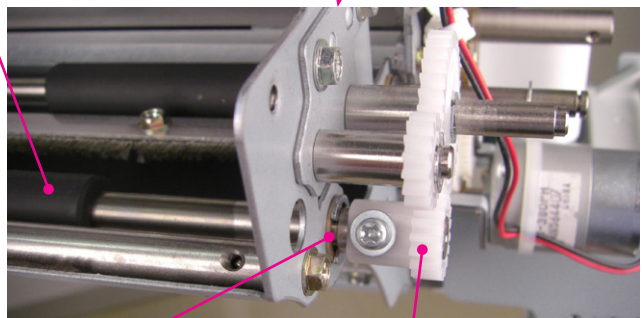
1658

Load roller (bottom)



Metal bushing

1659



Metal bushing

Spur gear

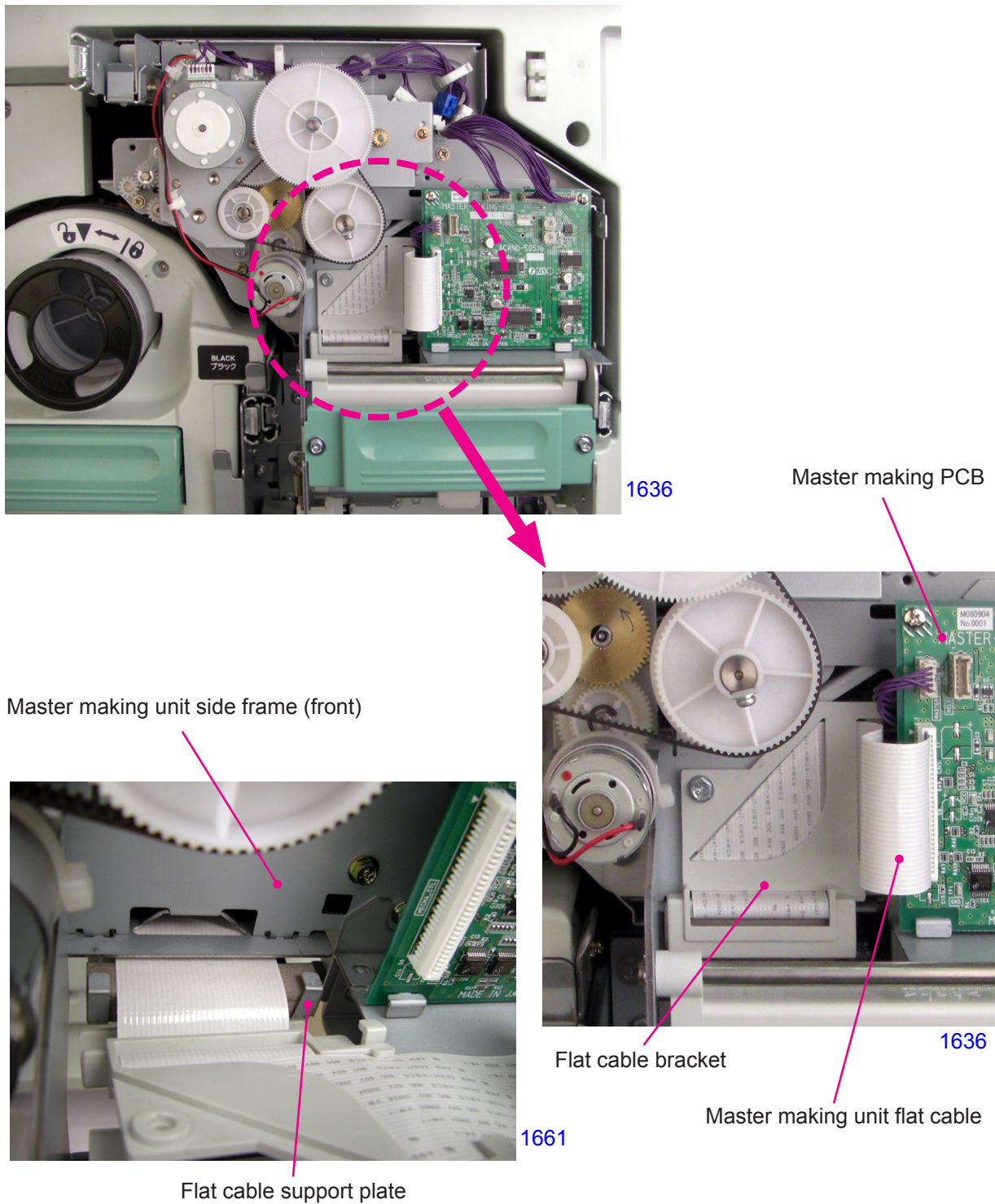
1660

20. Removing the Master Making Unit

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

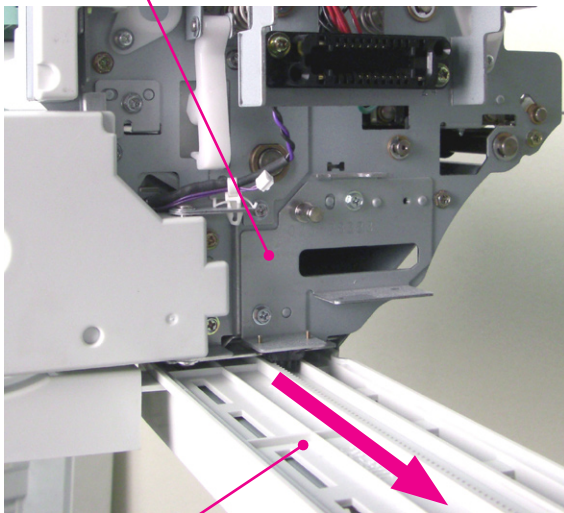
- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Master making unit front cover by removing screws (M4x8 screws; 4 pcs).
- (3) Unplug the Master making unit flat cable from the Master making PCB.
- (4) Remove a screw (M3x8 screw; 1 pc) and remove the Flat cable bracket. Then unhook the Flat cable support plate from the Master making unit side frame (front) and let it hang down.

The procedure continues onto next two pages.



- (5) Pull out the Flat cable guiding box in the direction indicated by an arrow mark on the photograph below, just enough to unhook from the Master making unit, and disengage it from the Master making unit.
- (6) Push both the Flat cable guiding box and Flat cable support plate back into the machine.
- (7) Remove the four Shoulder screws and remove the unit from the machine by lifting it.

Master making unit

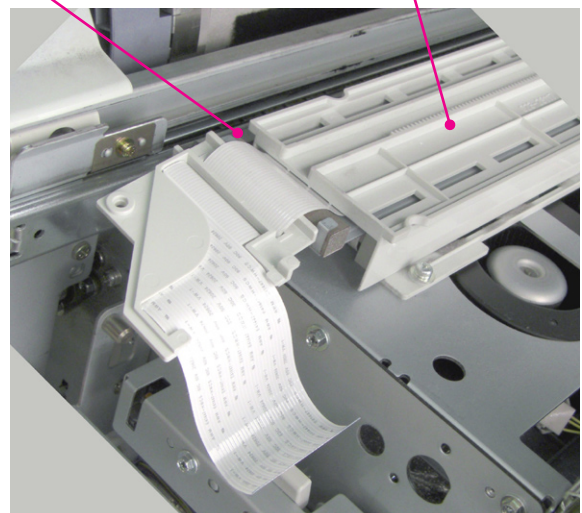


Flat cable guiding box

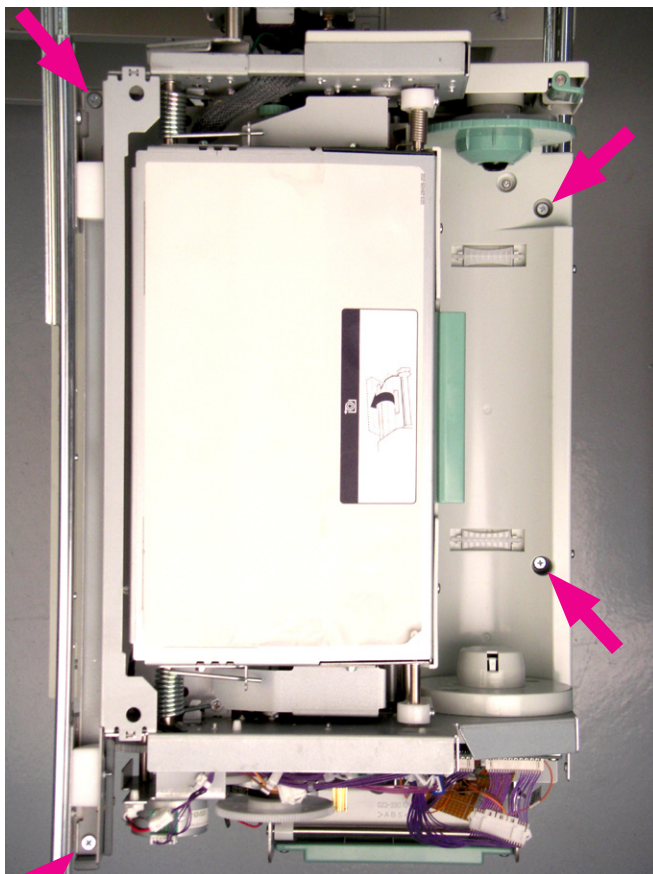
1662

Flat cable support plate

Flat cable guiding box



1663



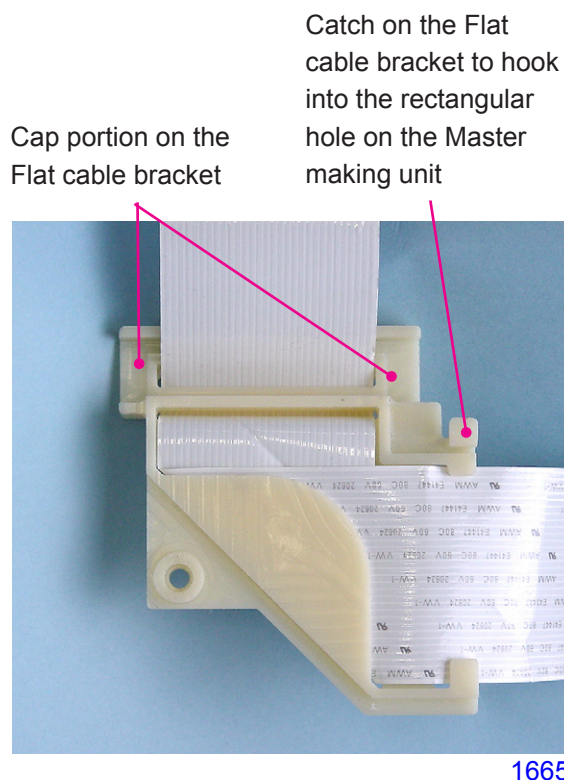
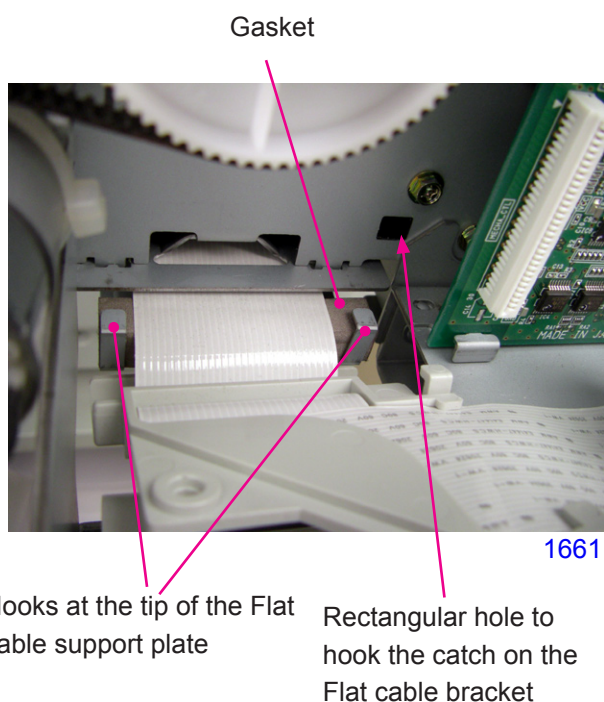
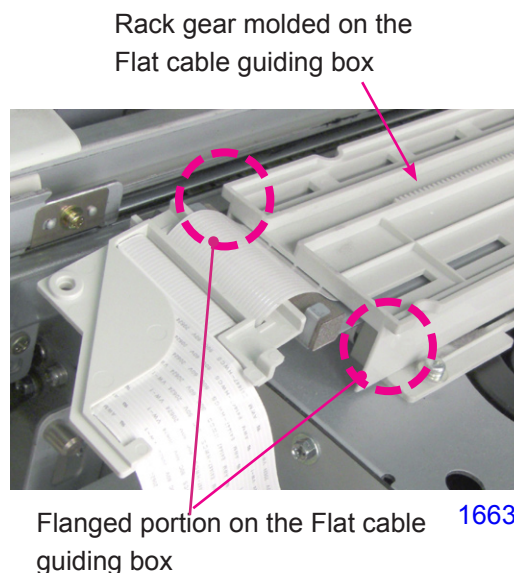
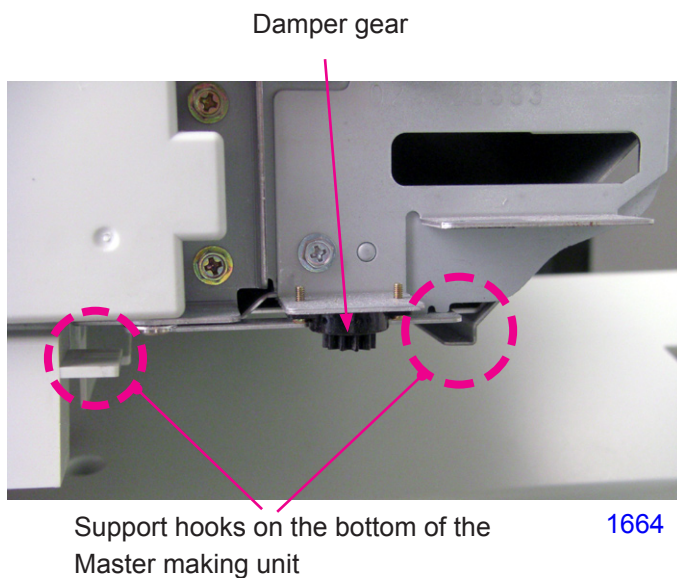
< Master Making Unit >

1616

Shoulder screws

< Precautions in Reassembly >

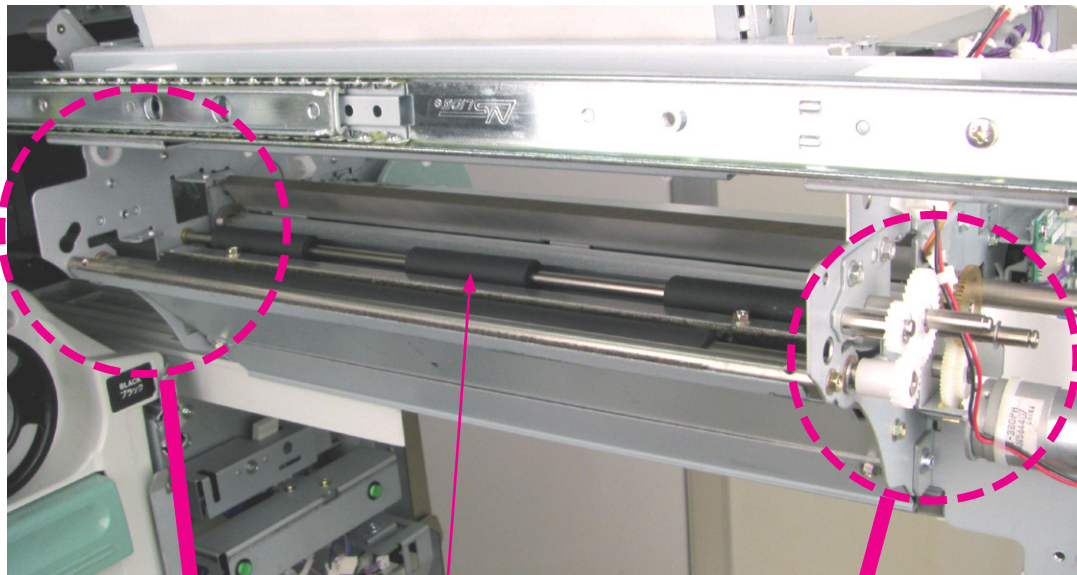
- 1) Insert the flanged portion of the Flat cable guiding box through the support hooks on the bottom of the Master making unit and engage the Damper gear into the rack gear on the top surface of the Flat cable guiding box.
- 2) Insert the cap portion of the Flat cable bracket over the hooks on the front tip of the Flat cable support plate and hook the catch on the Flat cable bracket on the rectangular hole on the Master making unit front frame.



21. Removing the Master Stocker Roller (bottom)

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

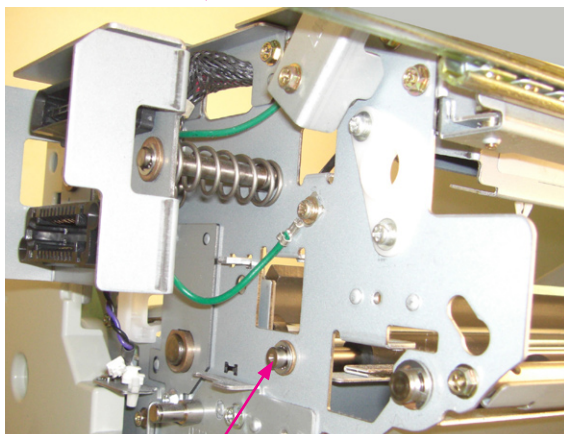
- (1) Pull out the Master making unit and switch OFF the machine power.
- (2) Remove the Master making unit.
- (3) Remove the following items.
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Cutter cover assembly
 - Master loading guide
 - Master loading roller
 - Cutter guide assembly
 - Master stocker roller pulley (4mm diameter E-ring; 1 pc).
- (4) Remove an E-ring (4mm diameter; 1 pc) and the Metal bushing from the rear, and remove two E-rings (4mm diameter; 2 pcs) and the Metal bushing from the front, and remove the Master stocker roller (bottom).



Master stocker roller (bottom)

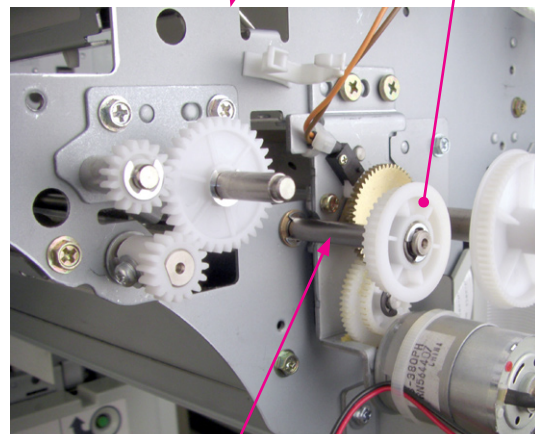
1658

Master stocker roller pulley



Master stocker roller (bottom)

1666



Master stocker roller (bottom)

1667

Adjustment

1. Thermal Power of Thermal Print Head

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

The thermal power must always be adjusted each time a TPH (Thermal print head) is replaced.

- (1) Activate test mode.
- (2) Enter 9874 from the key board on the panel, press <START> key to access into the protected area.
- (3) Run test mode No. 1234 (TPH resistance input) and enter the resistance value imprinted on a sticker attached on each TPH. Press START key to enter the value.
- (4) Press <RESET> key to return back to the normal operation mode.

2. Master Clamp Range Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

Checks and adjustment

- (1) Make a master and mark a short straight line at about the center of the master along the edge of the Clamp plate so the measurement of the master under the Clamp plate can be measured.
- (2) Open the Clamp plate and measure from the leading edge of the master to the marking made. The measured length should be 18 mm, plus or minus 1 mm.
- (3) If the measurement is out of the specified range, make an adjustment using test mode No. 543 (master clamp range adjustment).

* Increasing the parameter setting by the test mode increases the master clamp amount.

3. Write Start Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
0	0	0	0	0	0

Checks and adjustment

- (1) Run Test mode No. 80 (Test print A) to make a master.
- (2) Remove the leading edge of the master by opening the Clamp plate of the Print drum and measure the distance from the leading edge of the master to the write start position (top of the image on the master) to confirm that the distance is 63 mm, plus or minus 1 mm, measured at about the center of the master material.
- (3) If the measurement is out of the specified range, run test mode No. 541 (Write start position adjustment) and make an adjustment.

* Increasing the parameter setting by the test mode decreases the distance, moving the image up on the master material.

* Master Clamp Range Adjustment must be made before this Write Start Position Adjustment.

4. Horizontal Write Position Adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment procedure

- (1) Run Test Mode No.386 (Activates or deactivates center black dot setting) and select [1] to activate the center black line.
- (2) Without turning the machine power off, exit from the Test Mode and make a master without placing any original on the Scanner stage glass.
- (3) Pull out the Print drum, confirming that the black line on the master is within 179 mm, plus or minus 1 mm, from the inner surface of the Drum flange on the rear.
- (4) If the measurement is out of the specified range, start the protected area Test Mode No.9874, and then 1233 (TPH master-making horizontal position adjustment) and make adjustments.

* Increasing the parameter setting by the test mode will move the master-making horizontal position on the master towards the rear of the Print drum (moves printed image on the paper to the right). Changing the test mode parameter too much may result in lost image.

5. Master cut length adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Make a master and measure the length of the master margin at the tail end of the master on the Print drum (distance from where the ink ends on the master material to the tail edge of the master). The distance should be 10.5 mm, plus or minus 1.5 mm.
 - (2) If the measured distance is out of the specified range, make an adjustment using test mode No.544 (master cut length adjustment).
- * Increasing the parameter setting by the test mode increases length of the margin at the tail of the master, making the total length of each master longer.

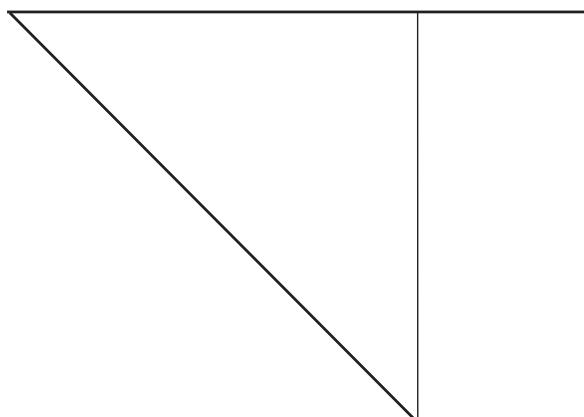
6. Master making image Elongation and Shrinkage adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

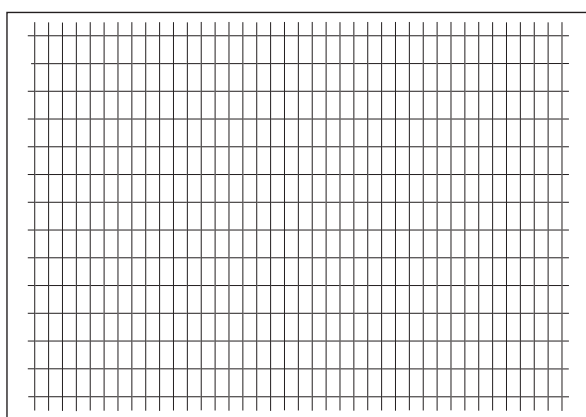
- (1) Run Test mode No.81 (Test print B) to make a master, and then make prints.
- (2) Check by folding the printed paper and look through the top and bottom folded print. If the horizontal line overlaps exactly with the vertical line or within plus/minus 1%, the adjustment is correct.
- (3) If the length of the horizontal and vertical lines differ for more than 1%, make an adjustment using test mode No.547 (master-making speed adjustment).

* Increasing the parameter setting by the test mode vertically elongates the image.



How the paper is folded for the check.

1668



Test print B [Test Mode No.81]
(The printed line pitch differs according to the dpi of the Thermal print head.)

1669

7. Master making length adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Checks and adjustment

- (1) Run the Test mode No.80 (Test print A) to make a master.
- (2) Peel off the master from the Print drum and measure the distance from the top of the image to the bottom of the image created on the master. The distance should be 425 mm for Ledger, 413 mm for A3, 357 mm for B4, 349 mm for Legal, 290 mm for A4 and 273 mm for Letter size Print drum.
- (3) If the measured distance is out of the specified range, make an adjustment using test mode No.542 (master making length adjustment).

* Increasing the parameter setting by the test mode increases the master making length.

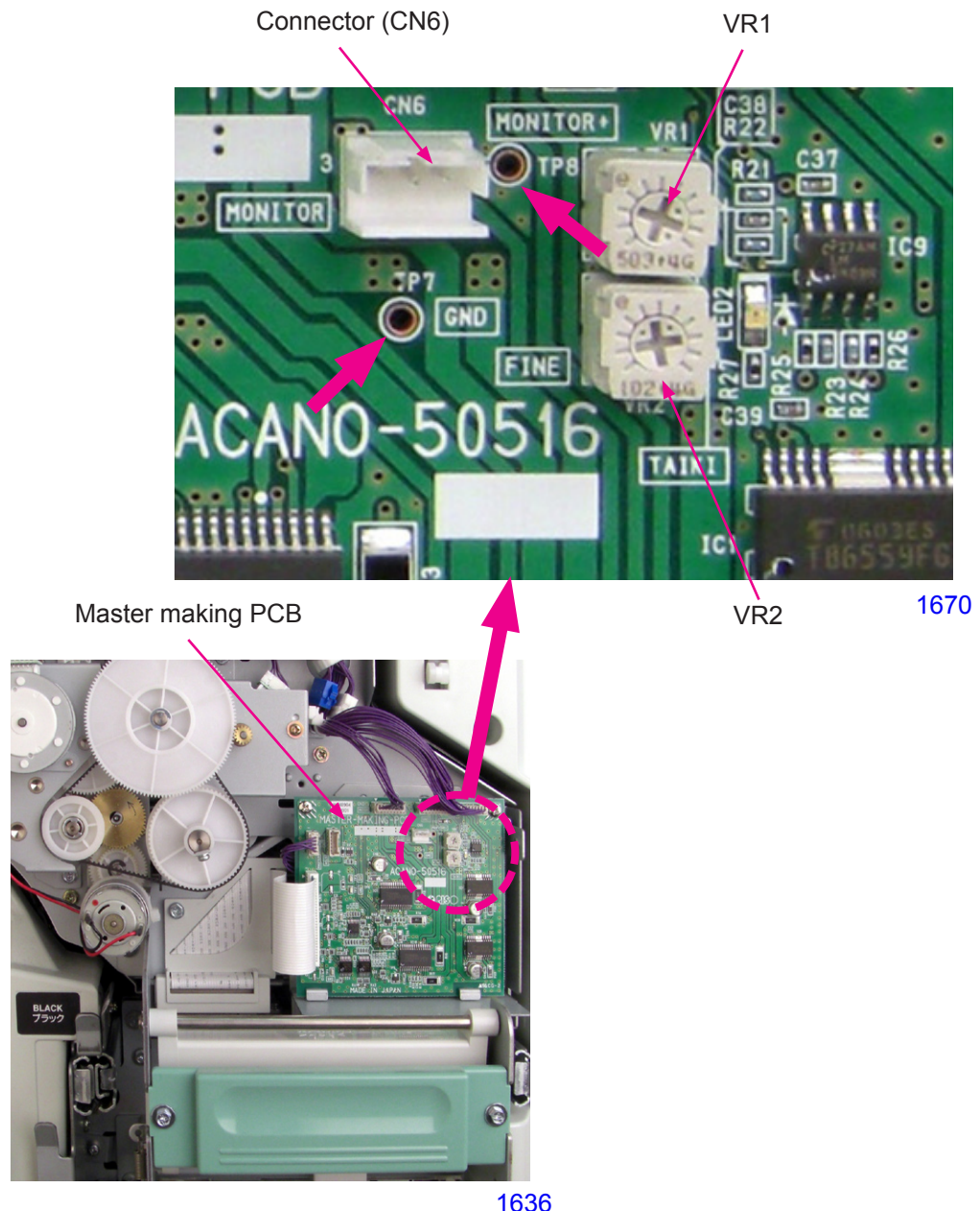
8. Master Positioning Sensor sensitivity adjustment

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

Make following adjustment after replacing Master positioning sensor.

Checks and adjustment

- (1) Pull out the Master making unit. If master material is set in the unit, rewind the master material back on the master roll, so no master is under the Master positioning sensor.
- (2) Remove the Master-making unit front cover by removing screws (M4x8 screws; 4 pcs).
- (3) Push the Master making unit back in the machine.
- (4) With the machine power ON, using a multi-meter, measure the voltage between TP7 and TP8.
Measuring the voltage between TP7 and TP8 is same as measuring the voltage between pin No. 1 (+) and pin No. 3 (-) of connector (CN6) of the Master making PCB.
- (5) Confirm that the measured voltage is 1.0 volt, plus or minus 0.2 volt.
- (6) If the voltage is not within the above given range, slowly and gently rotate both volume dials VR1 and VR2 all the way in the clockwise direction until the dials stop.
- (7) Slowly rotate the dial VR1 (rough adjustment dial) in the counterclockwise direction until the voltage becomes about 2 volts.
- (8) Then slowly rotate the dial VR2 (fine adjustment dial) in the counterclockwise direction until the voltage comes down to the correct voltage setting of 1.0 volt, plus or minus 0.2 volt.



MEMO

CHAPTER 17: PANEL MESSAGE

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1. Explanation of Panel Messages

Overview of the messages

1) Error-code displays

If an error occurs, an error message is displayed on the LCD panel of the machine, in Error-code display and in graphics, to indicate the machine problem to the operator.

Error-code displays consist of an [error type] indicating the type of error and an [error-point number] indicating the error situation. The [T-Error Type] on CZ2/3 & CV2/3 are displayed as [P-Error Type].

Example:

T01-520 T01: Error type and 520: Error point

1. Error type

The order of error priority is as specified below.

Error Type	Description	EZ5 EV5	EZ2/3 EV2/3
T (P)	Serviceman-call error	O	O
A	Jam error	O	O
B (b)	Option error	O	O
C (c)	Consumable error	O	O
D (d)	Set check error	O	O
E	Warning (Serviceman call)	O	O
F	Warning (Other)	O	O
J	Paper/Original jam error	O	O
H	Parameter value input	O	O

2. Error point

The error-point classification are as specified below.

Error Type	Description	EZ5 EV5	EZ2/3 EV2/3
0XX	System (hardware, software, communication), Operation panel	O	O
1XX	Scanning section (scanner, AF), image processing	O	O
2XX	Master making section	O	O
3XX	Master-disposal section	O	O
4XX	Paper-feed/ejection section	O	O
5XX	Print-drum area	O	O
6XX	Printing adjustment section (vertical, horizontal, density)	O	O
7XX	Optional accessories	O	O

2. List of Error Types

Error Type	Description	EZ5 EV5	EZ2/3 EV2/3
T01	Main motor lock	○	○
T02	Elevator motor lock	○	○
T03	Clamp motor lock	○	○
T04	Overflow	○	○
T05	Print-positioning pulse-motor lock	○	○
T08	Communication error with CI	x	○
T09	Sorter error	○	x
T11	Print pressure pulse motor lock	○	○
T12	Master disposal area motor lock	○	○
T13	Cutter motor lock	○	○
T14	Flatbed error	○	○
T15	AF error	○	○
T17	Solenoid counter not connected	○	○
T18	Drum-lock solenoid lock	○	○
T19	Thermal-pressure motor lock	○	○
T20	Paper-ejection-section motor lock	○	○
T24	Inking motor lock	○	○
T25	No battery error	○	○
T89	Master compression plate error	○	○
T91	Operation panel EEPROM error	○	x
T92	Drum EEPROM write error	○	○
T93	NET-C hardware error	x	○
T93	NET-D hardware error	○	x
T94	Call service error: TPH	○	○
T95	FRAM error	○	○
T96	Data not input	○	○
T97	PC card access error	○	○
T98	Hardware error	○	○
T99	Software error	○	○

Error Type	Description	EZ5 EV5	EZ2/3 EV2/3
A01	Master feed error	○	○
A02	Master loading error	○	○
A04	Master detected on print drum error	○	○
A05	Master detected in master-disposal area	○	○
A06	Check paper-feed tray	○	○
A07(J)	Paper-feed error	○	○
A08(J)	Paper jam on print drum	○	○
A09(J)	Paper-ejection error	○	○
A10(J)	AF original feed error	○	○
A16	Awaiting for the master to be removed from the drum	○	○
A17	Cutter error	○	○
A34	Requesting for master to be reset	○	○

Error Type	Description	EZ5	EZ2/3
		EV5	EV2/3
B01	Keycard counter: No card	O	O
B02	Sorter: Call service error	O	x
B03	Sorter: Jam error	O	x
B04	Sorter: Door open error	O	x
B05	Sorter: Error (other)	O	x
B21	Hold memory: Read/Write error	O	x
B22	Job separator: Power OFF	O	O
B23	Job separator: No tape	O	O
B24	Job separator: Tape jam	O	O
B25	Sorter: Tray full error	O	x
B26	Sorter: Paper remaining on tray error	O	x
B27	Sorter: Stapler error	O	x
B28	Sorter: Size error	O	x
B29	USB Memory: No compatibility (w/ USB HUB)	O	x
B30	USB Memory: No compatibility	O	x
B31	Linked printer: Data communication error	O	O
B32	Network cable not connected	O	O
B33	IP address setup error	O	O
B34	Linked printer: error	x	O
B34	Linked printer: No toner	O	x
B35	Linked printer: Call service error	O	x
B38	USB Memory: Fault create a file	O	x
B39	USB Memory: No access	O	x

Error Type	Description	EZ5	EZ2/3
		EV5	EV2/3
C01	Replace ink cartridge	O	O
C02	Replace master roll	O	O
C03	Master disposal box full	O	O
C04	No paper on the paper feed tray	O	O

Error Type	Description	EZ5	EZ2/3
		EV5	EV2/3
D01	Print drum not set	O	O
D02	Incorrect print drum	O	O
D03	Ink cartridge not set	O	O
D04	Incorrect ink cartridge	O	O
D05	Master not set	O	O
D07	Master-disposal box not set	O	O
D08	Master making unit not set	O	O
D09	Master making unit cover not closed	O	O
D11	Front cover not closed	O	O
D13	Rear cover not closed	O	O
D17	Incorrect master roll	O	O
D18	Print drum is ready for removal	O	O
D19	Master making unit is ready for removal	O	O
D22	Print drum removal command	O	O
D23	AF cover not closed	O	x

Error Type	Description	EZ5	EZ2/3
		EV5	EV2/3
E01	Replace battery	O	O
E02	Maintenance call	O	O

Error Type	Description	EZ5	EZ2/3
		EV5	EV2/3
F01	No master on print drum	O	O
F02	Master image larger than paper size: 1	O	x
F03	Multi-up printing - Incorrect paper size	O	O
F04	User Control: Reach to copy count limit	O	x
F05	Print quantity less than the minimum print quantity setting	O	O
F08	Auto tray selection: Wrong paper size	O	x
F10	Master image larger than paper size: 2	O	x
F12	Auto tray selection: Irregular size original	O	x
F15	Auto control paper receiving tray: Large paper remaining on the tray	O	x
F17	Incorrect print drum size	O	x
F21	Multi-Up: No original on AF	x	O
F22	Multi-Up: No original on FB	x	O
F24	Auto reproduction: Error between original size and paper size	O	x
F31	Auto control paper receiving tray: Paper guide fence error	O	x
F32	Storage data: Storage area full	O	x
F33	USB Memory: Capacity is full	O	x
F37	Book mode: AF cannot be used	O	O
F43	AF cannot be used in book mode	O	x
F44	Auto reproduction size: Error between original size and paper size	O	x
F45	Linked printer error	O	x
F47	Linked printer error - No paper	O	x
F48	Multi-Up: Wrong original size	O	x
F49	Multi-Up: No original	O	x
F52	Linked printer error - Job interrupted	O	x
F58	Book editing not available with AF (NET-C Card Initializing)	x	O
F58	Book editing not available with AF (NET-D Card Initializing)	O	x
F60	Master-making confirmation when linked printer is selected (when print quantity = 0)	O	x
F61	Linked printer: Wrong paper size	O	x
F62	Linked printer auto selection: Linked printer error	O	x
F63	Linked printer: Auto tray selection not available for irregular size original	O	x
F64	Selected function not available while processing print data from PC	O	x
F65	Scan mode: Auto page size selection not available for irregular size original	O	x
F66	Linked printer: Saddle-stitch error	O	x
F67	Linked printer: Rotation sort error	O	x
F73	Linked printer: Auto tray selection not available with selected reproduction ratio	O	x
F74	High speed printing: Printer temperature is too low for 180ppm high speed printing	O	x
F78	Editor: Stage cover is opened	O	x
F79	Editor: No original during re-scanning	O	x
F85	External CI: Scanning not possible with external CI not connected	O	x
F86	Auto tray selection: Tray cannot be selected with selected reproduction ratio	O	x
F87	Auto tray selection: Multi-Up not possible	O	x
F88	Auto tray selection: 2-Up selection error	O	x
F89	Interposer mode: Wrong paper size	O	x
F90	Stock management (ink)	O	x
F91	Stock management (master)	O	x
F93	Reproduction size: Larger than the master-making size	O	x
F94	Protect mode: Discard current master	O	x
F95	Protect mode: Confirmation	O	x
F96	Total Count Volume	O	x
F97	Count Charge	O	x

Error Type	Description	EZ5	EZ2/3
		EV5	EV2/3
H01	Ink color setting	O	O
H02	Print density fine adjustment	X	O
H03	Proof-print density adjustment (ink)	X	O
H04	Master-making density	O	O
H05	Print density fine adjustment	X	O
H06	Proof-print density adjustment (master)	X	O

3. Detail List of Panel Messages

Service call errors (T**)

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	T01 [Main motor lock]	Error Type	T01 [Main motor lock]
LCD Display	T01-xxx	LED Display	LED 3 (Print drum area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
520	Main motor lock detection due to The Main motor FG sensor count reduced to 50% of the set speed. (The detection is not made for the first 200 milliseconds from the Main motor movement.)	520	The Main motor FG sensor does not go ON/OFF within 10 milliseconds after the Main motor activates.
521	The position-B sensor status does not change even after 3,033 pulses after the Main motor activates.	521	The position-B sensor status does not change even after 3,033 pulses after the Main motor activates.
524	The Clamp unit is not at the home position while the Print drum is in operation (except during master disposal).	524	The Clamp unit is not at the home position while the Print drum is in operation (except during master disposal).
537	The Print drum failed to stop at position-B.	537	The Print drum failed to stop at position-B.
538	The Print drum is not locked during operation. (Drum lock sensor: OFF)	538	The Print drum is not locked during operation. (Drum lock sensor: OFF)

Error Type	T02 [Elevator motor lock]	Error Type	T02 [Elevator motor lock]
LCD Display	T02-xxx	LED Display	LED 1 (Paper feed tray area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
400	Both the Upper and Lower limit sensors are ON at the same time.	400	Both the Upper and Lower limit sensors are ON at the same time.
401	Overload current was detected in the Elevator motor.	401	Overload current was detected in the Elevator motor.
404	The Lower limit sensor does not go OFF within 2 seconds after the Elevator motor operates in the raising direction from the lower limit position.	404	The Lower limit sensor does not go OFF within 2 seconds after the Elevator motor operates in the raising direction from the lower limit position.
405	The Upper limit sensor does not go ON within 12 seconds after the Elevator motor operates in the raising direction.	405	The Upper limit sensor does not go ON within 12 seconds after the Elevator motor operates in the raising direction.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
406	The Upper limit sensor does not go OFF within 2 seconds after the Elevator motor operates in the lower direction from the upper limit position.	406	The Upper limit sensor does not go OFF within 2 seconds after the Elevator motor operates in the lower direction from the upper limit position.
407	The Lower limit sensor does not go ON within 12 seconds after the Elevator motor operates in the lowering direction.	407	The Lower limit sensor does not go ON within 12 seconds after the Elevator motor operates in the lowering direction.
408	The Upper limit sensor is OFF continuously for over 2 seconds during operation of the elevator servo action to raise the Feed tray.	408	The Upper limit sensor is OFF continuously for over 2 seconds during operation of the elevator servo action to raise the Feed tray.
434	Machine tried to print with the Upper limit sensor OFF when special paper feed mode is selected.	434	Machine tried to print with the Upper limit sensor OFF when special paper feed mode is selected.

Error Type	T03 [Clamp motor lock]	Error Type	T03 [Clamp motor lock]
LCD Display	T03-xxx	LED Display	LED 3 (Print drum area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
500	The Clamp sensor A is OFF after the completion of the Clamp unit initialization or home positioning movement.	500	The Clamp sensor A is OFF after the completion of the Clamp unit initialization or home positioning movement.
501	The Clamp sensor B does not change within 1 second from the time the Clamp motor operates in the forward direction.	501	The Clamp sensor B does not change within 1 second from the time the Clamp motor operates in the forward direction.
502	The Clamp sensor B does not change within 1 second from the time the Clamp motor operates in the reverse direction.	502	The Clamp sensor B does not change within 1 second from the time the Clamp motor operates in the reverse direction.
503	The Clamp sensor A does not go ON within 3 seconds when the Clamp unit makes initialization movement.	503	The Clamp sensor A does not go ON within 3 seconds when the Clamp unit makes initialization movement.
504	At the start of the Clamp plate open/close action, the detection sequence of clamp sensors A & B are abnormal.	504	At the start of the Clamp plate open/close action, the detection sequence of clamp sensors A & B are abnormal.
505	At the start of print drum Position-A compensation movement, the detection sequence of clamp sensors A & B are abnormal.	505	At the start of print drum Position-A compensation movement, the detection sequence of clamp sensors A & B are abnormal.
506	At the start of Clamp unit Home positioning movement, the detection sequence of clamp-sensors A & B are abnormal.	506	At the start of Clamp unit Home positioning movement, the detection sequence of clamp-sensors A & B are abnormal.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
507	The Clamp sensor A is ON after the clamp release action is completed.	507	The Clamp sensor A is ON after the clamp release action is completed.
508	The Clamp sensor A is ON after the A-position compensating movement is completed.	508	The Clamp sensor A is ON after the A-position compensating movement is completed.
545	The Clamp unit is not in the home position while the Print drum is in movement (cause due to the Clamp motor).		

Error Type	T04 [Ink overflow]	Error Type	T04 [Ink overflow]
LCD Display Description	T04-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service	LED Display Error position	LED 3 (Print drum area)
To reset display	Press the <RESET> key after correcting the ink overflow condition. (No ink on the ink overflow sensor.)	To reset display	Press the <RESET> key after correcting the ink overflow condition. (No ink on the ink overflow sensor.)
Error Point	Error Conditions	Error Point	Error Conditions
513	The Overflow sensor is ON for a set number of times in succession during the 10-millisecond-interval overflow-sensor check.	513	The Overflow sensor is ON for a set number of times in succession during the 10-millisecond-interval overflow-sensor check.

Error Type	T05 [Vertical print positioning pulse motor lock]	Error Type	T05 [Vertical print positioning pulse motor lock]
LCD Display Description	T05-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service	LED Display Error position	LED 7 (Paper ejection area)
To reset display	Press the <RESET> key. (Overflow sensor must be OFF)	To reset display	Press the <RESET> key. (Overflow sensor must be OFF)
Error Point	Error Conditions	Error Point	Error Conditions
603	The Vertical print positioning HP sensor does not switch ON even when the Vertical print positioning pulse motor activated in the image-down direction for regulation time during vertical home positioning movement.	603	The Vertical print positioning HP sensor does not switch ON even when the Vertical print positioning pulse motor activated in the image-down direction for 5.0 seconds during vertical home positioning movement.
604	The Vertical print positioning HP sensor does not switch OFF even when the Vertical print positioning pulse motor activated in the image-up direction for regulation time during vertical home positioning movement.	604	The Vertical print positioning HP sensor does not switch OFF even when the Vertical print positioning pulse motor activated in the image-up direction for 5.0 seconds during vertical home positioning movement.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
605	Even though the Vertical print positioning pulse motor stopped according to the Vertical print positioning sensor detection, the stopping position does not correspond with the programmed position. (GA control error).	605	Even though the Vertical print positioning pulse motor stopped according to the Vertical print positioning sensor detection, the stopping position does not correspond with the programmed position. (GA control error).
612	The Print positioning key is pressed with vertical print position information undefined.	612	The Print positioning key is pressed with vertical print position information undefined.
619	The Vertical print positioning pulse motor does not end its operation within the set period during the recovery movement to rotate -98 pulses.		
632	The Vertical print positioning pulse motor does not end its operation within the set period in the pulse count stop mode, or in the sensor stop mode after the actuator is detected by the sensor.		

Error Type	T08 [Communication error with CI]
LED Display Error position	No indication
To reset display	Turn the power OFF and ON.
Error Point	Error Conditions
007	NeoROSA PCB not connected (When printing the System configuration data output)
951	The file is not a correct RINC data.

Error Type	T09 [Sorter error]
LCD Display	T09-xxx
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn the power OFF and ON.
Error Point	Error Conditions
003	Sorter communication error.
700	Sorter communication error: The /CTS does not change to LOW even after 3 seconds from power ON.
701	Sorter communication error: The machine status information is not received from the sorter even after 0.2 seconds from the initialization command.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
712	Sorter communication error: The retry command was not received.		
720	Sorter communication error: The retry command was not received twice consecutively.		

Error Type	T11 [Print pressure pulse motor lock]	Error Type	T11 [Print pressure pulse motor lock]
LCD Display	T11-xxx	LED Display	LED 3 (Print drum area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> key to recovery operation (Return to home position)	To reset display	Press the <RESET> key to recovery operation (Return to home position)
Error Point	Error Conditions	Error Point	Error Conditions
600	The Pressure HP sensor does not switch ON within 3.9 seconds after the Pressure control pulse motor activated towards higher pressure during home positioning operation.	600	The Pressure HP sensor does not switch ON within 5 seconds after the Pressure control pulse motor activated towards higher pressure during home positioning operation.
601	The Pressure HP sensor does not switch OFF within 4.6 seconds after the Pressure control pulse motor activated towards lower pressure during home positioning operation.	601	The Pressure HP sensor does not switch OFF within 5 seconds after the Pressure control pulse motor activated towards lower pressure during home positioning operation.
602	Even though the Pressure control pulse motor stopped according to the Pressure HP sensor detection, the stopping position does not correspond with the programmed position. (GA control error).	602	Even though the Pressure control pulse motor stopped according to the Pressure HP sensor detection, the stopping position does not correspond with the programmed position. (GA control error).
614	The Pressure control pulse motor does not complete its movement even after 1.2 time the set period passed from the print pressure HP movement to move -1000 pulses.	614	The Pressure control pulse motor does not complete its movement even after 7 seconds from the print pressure HP movement to move -1000 pulses.
631	The Pressure control pulse motor does not end its operation within the set period in the pulse count stop mode, or in the sensor stop mode after the actuator after the actuator is detected by the sensor.		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	T12 [Master disposal area motor lock]	Error Type	T12 [Master disposal area motor lock]
LCD Display	T12-xxx	LED Display	LED 5 (Master removal area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
300	Overload current was detected in the Master removal motor.	300	Overload current was detected in the Master removal motor.
301	The Master compression motor lock when moving compression plate up.	301	The Master compression motor lock when moving compression plate up.
305	The Master compression HP sensor does not go ON within 7.5 seconds after the Master compression motor operates in the return direction.	305	The Master compression HP sensor does not go ON within 6.5 seconds after the Master compression motor operates in the return direction.
306	The Master compression sensor does not go OFF within 2 seconds after the Master compression motor operates in the compress direction.	306	The Master compression sensor does not go OFF within 2 seconds after the Master compression motor operates in the compress direction.
307	The Master compression plate maximum position is not detected within 7.5 seconds after the Master compression motor operates in the compress direction.	307	The Master compression plate maximum position is not detected within 6.5 seconds after the Master compression motor operates in the compress direction.
309	The Compression FG sensor status on the Master compression motor did not change for 50 consecutive times during 10 millisecond polling.	309	The Compression FG sensor count did not change as the Master compression motor activated in the compress direction and moved out from the home position.
316	The Master removal motor FG sensor count dropped to 50% of the set speed. (The speed check starts 200 milliseconds after the activation of the motor.)	316	The Master removal motor FG sensor count did not change within 10 milliseconds after the Master compression motor activated.

Error Type	T13 [Cutter motor lock]	Error Type	T13 [Cutter motor lock]
LCD Display	T13-xxx	LED Display	LED 4 (Master making area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
203	The Cutter HP switch does not go OFF within 100 milliseconds after the Cutter motor is activated. (Rotary cutter only)	203	The Cutter HP switch does not go OFF within 100 milliseconds after the Cutter motor is activated. (Rotary cutter only)

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
204	The Cutter HP switch does not go ON within 300 milliseconds after the Cutter motor is activated. (Rotary cutter only)	204	The Cutter HP switch does not go ON within 300 milliseconds after the Cutter motor is activated. (Rotary cutter only)
205	The Master positioning sensor is ON when the Print drum rotates through the preset angle following master cutting.	205	The Master positioning sensor is ON when the Print drum rotates through the preset angle following master cutting.
221	The Cutter HP switch and the Cutter stop position switch both go ON at same time. (Shuttle cutter only)	221	The Cutter HP switch and the Cutter stop position switch both go ON at same time. (Shuttle cutter only)
222	The Cutter HP switch does not go ON within 450 milliseconds after the cutter home positioning operation started.	222	The Cutter HP switch does not go ON within 450 milliseconds after the cutter home positioning operation started.
231	The Cutter HP switch does not go OFF within 500 milliseconds after the Cutter motor is activated. (Shuttle cutter only)	231	The Cutter HP switch does not go OFF within 500 milliseconds after the Cutter motor is activated. (Shuttle cutter only)
232	The Cutter stop switch does not go ON within 2 seconds after the Cutter motor is activated. (Shuttle cutter only)	232	The Cutter stop switch does not go ON within 2 seconds after the Cutter motor is activated. (Shuttle cutter only)
233	The Cutter stop switch does not go OFF within 500 milliseconds after the cutter home positioning operation started from cutter stop position. (Shuttle cutter only)	233	The Cutter stop switch does not go OFF within 500 milliseconds after the cutter home positioning operation started from cutter stop position. (Shuttle cutter only)
234	The Cutter HP switch does not go ON within 2 seconds after the cutter home positioning operation started. (Shuttle cutter only)	234	The Cutter HP switch does not go ON within 2 seconds after the cutter home positioning operation started. (Shuttle cutter only)

Error Type	T14 [Flatbed error]	Error Type	T14 [Flatbed error]
LCD Display	T14-xxx	LED Display	LED 8 (Image scanning area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
112	The FB/AF HP sensor does not go OFF within given time.		
113	The FB/AF HP sensor does not go ON within given time.		
114	Incorrect main-unit data.		
115	The scanner operation is not completed within the set time.	115	The scanner operation is not completed within the set time.
116	Timeout error for black shading compensation.	116	Timeout error for black shading compensation. (EZ3/EV3 only)

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
117	Timeout error for white shading compensation.	117	Timeout error for white shading compensation. (EZ3/EV3 only)
		118	Software error
123	Offset adjustment not completed within set time.	123	Offset adjustment not completed within set time. (EZ3/EV3 only)
124	Gain adjustment not completed within set time.	124	Gain adjustment not completed within set time.
125	Offset adjustment not completed.	125	Offset adjustment not completed. (EZ3/EV3) A/D reference adjustment not completed. (EZ2/EV2)
126	Gain adjustment not completed.	126	Gain adjustment not completed.
135	Malfunction detected during offset adjustment.	135	Malfunction detected during offset adjustment. (EZ3/EV3 only)
136	Malfunction detected during gain adjustment.	136	Malfunction detected during gain adjustment. (EZ3/EV3 only)
137	Malfunction detected during black shading compensation.	137	Malfunction detected during black shading compensation. (EZ3/EV3 only)
138	Malfunction detected during white shading compensation.	138	Malfunction detected during white shading compensation. (EZ3/EV3 only)
		160	The scanner model information is missing.
170	Even though the FB read pulse motor stopped according to the sensor detection, the stopping position does not correspond with the programmed position. (GA control error).	170	Even though the FB read pulse motor stopped according to the sensor detection, the stopping position does not correspond with the programmed position. (GA control error).

Error Type	T15 [AF error]	Error Type	T15 [AF error]
LCD Display	T15-xxx	LED Display	
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	LED 8 (Image scanning area)
To reset display	Turn the power OFF and ON.	To reset display	Turn the power OFF and ON.
Error Point	Error Conditions	Error Point	Error Conditions
100	The AF read sensor adjustment error.		
101	AF-EEPROM error.		
110	ABC (auto-base-control) timeout. The original does not move from the ABC scanning position on the AF unit.	110	ABC (auto-base-control) timeout. The original does not move from the ABC scanning position on the AF unit.
111	Operation command was made to the AF unit without 24 volts supplied to the AF unit.	111	Operation command was made to the AF unit without 24 volts supplied to the AF unit.
130	Timeout error in receiving reply from the AF unit after command signal was sent from the Riso printer to the AF unit.	130	Timeout error in receiving reply from the AF unit after command signal was sent from the Riso printer to the AF unit.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
131	Riso printer received an undefined command from the AF unit.	131	Riso printer received an undefined command from the AF unit.
132	Riso printer detected communication sequence error from the AF unit.	132	Riso printer detected communication sequence error from the AF unit.
133	Communication error with AF unit (ACK, NAK, or receiving channel error).	133	Communication error with AF unit (ACK, NAK, or receiving channel error).
134	Riso printer could not send command to the AF unit within the set time.	134	Riso printer could not send command to the AF unit within the set time.
161	AF unit not connected.	161	AF unit not connected.

Error Type	T17 [Solenoid counter not connected]	Error Type	T17 [Solenoid counter not connected]
LCD Display	T17-xxx	LED Display	
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	LED 2 (Front cover area)
To reset display	Connect the Solenoid counter.	To reset display	Connect the Solenoid counter.
Error Point	Error Conditions	Error Point	Error Conditions
020	The Solenoid counter is not connected.	020	The Solenoid counter is not connected.

Error Type	T18 [Drum-lock-solenoid lock]	Error Type	T18 [Drum-lock-solenoid lock]
LCD Display	T18-xxx	LED Display	
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	LED 3 (Print drum area)
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
531	The Print drum lock sensor is still ON even after 100 milliseconds after the Print drum lock solenoid is activated.	531	The Print drum lock sensor is still ON even after 100 milliseconds after the Print drum lock solenoid is activated.

Error Type	T19 [Thermal-pressure motor lock]	Error Type	T19 [Thermal-pressure motor lock]
LCD Display	T19-xxx	LED Display	
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	LED 4 (Master making area)
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
207	The Thermal pressure sensor does not go OFF within 2 seconds after the Thermal pressure motor activates in the decompressing direction, or during home positioning operation.	207	The Thermal pressure sensor does not go OFF within 2 seconds after the Thermal pressure motor activates in the decompressing direction, or during home positioning operation.
208	The Thermal pressure sensor does not go ON within 2 seconds after the Thermal pressure motor activates in the decompressing direction.	208	The Thermal pressure sensor does not go ON within 2 seconds after the Thermal pressure motor activates in the decompressing direction.
216	The Thermal pressure sensor does not go OFF within 2 seconds after the Thermal pressure motor activates in the compressing direction.	216	The Thermal pressure sensor does not go OFF within 2 seconds after the Thermal pressure motor activates in the compressing direction.
217	The Thermal pressure sensor does not go ON within 2 seconds after the Thermal pressure motor activates in the compressing direction.	217	The Thermal pressure sensor does not go ON within 2 seconds after the Thermal pressure motor activates in the compressing direction.

Error Type	T20 [Paper-ejection-section motor lock]	Error Type	T20 [Paper-ejection-section motor lock]
LCD Display	T20-xxx	LED Display	
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	LED 7 (Paper ejection area)
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
414	The paper ejection wing HP sensor status does not change within set time after the Paper ejection wing motor activated for the wing home position movement.		
415	The paper ejection wing HP sensor does not change from OFF to ON even though the Paper ejection wing pulse motor is activated for a given time.		
416	Overload current was detected in the Paper ejection motor.	416	Overload current was detected in the Paper ejection motor.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
437	The Paper ejection motor FG sensor pulse count dropped to 50% of the set speed. (The detection starts 200 milliseconds after the Paper ejection motor is activated.)	437	The paper ejection motor FG sensor status does not change within 10 milliseconds after the Paper ejection motor is activated.
442	Though the Paper ejection wing pulse motor stopped correctly at the sensor stop mode, the stopping position does not correspond with the programmed position.		
456	The Paper ejection wing pulse motor does not end its operation within the set period in the pulse count stop mode, or in the sensor stop mode after the actuator is detected by the sensor.		

Error Type	T24 [Inking motor lock]	Error Type	T24 [Inking motor lock]
LCD Display Description	T24-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service	LED Display Error position	LED 3 (Print drum area)
To reset display	Press the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
539	The Inking motor FG sensor status does not change within 20 milliseconds after the Inking motor is activated.	539	The Inking motor FG sensor status does not change within 20 milliseconds after the Inking motor is activated.

Error Type	T25 [Replace Battery]	Error Type	T25 [Replace Battery]
LCD Display Description	T25-xxx !!!Low Battery!!! Call Service	LED Display Error position	No Indication
To reset display	Replace the battery.	To reset display	Replace the battery.
Error Point	Error Conditions	Error Point	Error Conditions
026	The Battery voltage is too low when the power is turned ON. (Readjust the machine clock after replacing the battery.)	026	The Battery voltage is too low when the power is turned ON. (Readjust the machine clock after replacing the battery.)

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	T89 [Master compression plate: incorrect position]	Error Type	T89 [Master compression plate: incorrect position]
LCD Display	T89-xxx	LED Display	LED 5 (Master removal area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Turn the power OFF and ON.	To reset display	Turn the power OFF and ON.
Error Point	Error Conditions	Error Point	Error Conditions
350	The Clamp unit is in the lowered position and the Master compression plate is not in the HP position when the Print drum starts its movement. (This is to protect the machine parts.)	350	The Clamp unit is in the lowered position and the Master compression plate is not in the HP position when the Print drum starts its movement. (This is to protect the machine parts.)

Error Type	T91 [Panel EEPROM error] or [RTC error]	Error Type	T91 [Panel EEPROM error] or [RTC error]
LCD Display	T91-xxx	LED Display	No Indication
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Description	
To reset display	Press the <RESET> Key.	To reset display	Press the <RESET> Key.
Error Point	Error Conditions	Error Point	Error Conditions
013	Time data from RTC is incorrect	013	Time data from RTC is incorrect
968	Panel EEPROM read error.		
969	Panel EEPROM write error.		
976	Panel EEPROM check-sum error.		
977	Panel EEPROM verify error.		

Error Type	T92 [Drum EEPROM write error]	Error Type	T92 [Drum EEPROM write error]
LCD Display	T92-xxx	LED Display	LED 3 (Print drum area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> Key.	To reset display	Press the <RESET> Key.
Error Point	Error Conditions	Error Point	Error Conditions
570	EEPROM on the Drum PCB is being accessed while the Print drum is in releasing action from the machine.	570	EEPROM on the Drum PCB is being accessed while the Print drum is in releasing action from the machine.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	T93 [NET-D hardware error]	Error Type	T93 [NET-C hardware error]
LCD Display	T93-xxx	LED Display	No indication
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Turn the power OFF and ON.	To reset display	Turn the power OFF and ON.
Error Point	Error Conditions	Error Point	Error Conditions
932	No reply from the NET-D network interface card while accessing to the network interface card.	932	No reply from the NET-C network interface card while accessing to the network interface card.
933	No response from NET-D for 90 seconds during NET-D initialization.		

Error Type	T94 [Call service error: TPH]	Error Type	T94 [Call service error: TPH]
LCD Display	T94-xxx	LED Display	LED 4 (Master making area)
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Turn the power OFF and ON.	To reset display	Turn the power OFF and ON.
Error Point	Error Conditions	Error Point	Error Conditions
225	TPH code does not match with the machine code when the power is turned ON with the Master making unit in operating position or when the Master making unit is inserted in operating position while the power is ON.	225	TPH code does not match with the machine code when the power is turned ON with the Master making unit in operating position or when the Master making unit is inserted in operating position while the power is ON.

Error Type	T95 [FeRAM error]	Error Type	T95 [FeRAM error]
LCD Display	T95-xxx	LED Display	No indication
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Turn the power OFF and ON.	To reset display	Turn the power OFF and ON.
Error Point	Error Conditions	Error Point	Error Conditions
059	Machine serial-number information sent from NeoROSA PCB does not match with the machine serial number information in the MCTL PCB.	059	Machine serial-number information sent from NeoROSA PCB does not match with the machine serial number information in the MCTL PCB.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	T96 [Data not input]	Error Type	T96 [Data not input]
LCD Display	T96-xxx	LED Display	No indication
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Input the parameters using test mode.	To reset display	Input the parameters using test mode.
Error Point	Error Conditions	Error Point	Error Conditions
171	The TPH resistance value not input.	171	The TPH resistance value not input.
172	The Scanner adjustment not completed.	172	The Scanner adjustment not completed.
433	The Paper width potentiometer setting is not completed.	433	The Paper width potentiometer setting is not completed.
		452	Too small difference between the 105mm and 297mm A/D data of the Paper width potentiometer.
569	Either the Print drum color information or Ink category information is still not input.	569	Either the Print drum color information or Ink category information is still not input.
613	Print pressure data missing.	613	Print pressure data missing.
972	REv data storage area is not initialized.	972	REv data storage area is not initialized.

Error Type	T97 [PC card access error]	Error Type	T97 [PC card access error]
LCD Display	T97-xxx	LED Display	No indication
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Press the <RESET> Key.	To reset display	Press the <RESET> Key.
Error Point	Error Conditions	Error Point	Error Conditions
939	PC card access error: PC card not set.	939	PC card access error: PC card not set.
940	PC card access error: PCMCIA card information error.	940	PC card access error: PCMCIA card information error.
941	PC card access error: CF card device error.	941	PC card access error: CF card device error.
942	PC card access error: Fail to create a file (Same file already exists).	942	PC card access error: Fail to create a file (Same file already exists).
943	PC card access error: Not formatted.	943	PC card access error: Not formatted.
944	PC card access error: Media ID error.	944	PC card access error: Media ID error.
945	PC card access error: Media error (cannot access the PC card).	945	PC card access error: Media error (cannot access the PC card).
946	PC card access error: Media error (not enough blank space available on CF card).	946	PC card access error: Media error (not enough blank space available on CF card).
990	PC card access error: Specified file not found on the selected drive.	990	PC card access error: Specified file not found on the selected drive.
991	PC card access error: Accessed to the file not opened.	991	PC card access error: Accessed to the file not opened.
992	PC card access error: File information folder is already in use.	992	PC card access error: File information folder is already in use.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
993	PC card access error: Incorrect setting on the readout address when sending data to the machine.	993	PC card access error: Incorrect setting on the readout address when sending data to the machine.
994	PC card access error: Unsuccessful file deleting.	994	PC card access error: Unsuccessful file deleting.

Error Type	T98 [Hardware error]	Error Type	T98 [Hardware error]
LCD Display	T98-xxx	LED Display	No indication
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Turn the power OFF and ON.	To reset display	Turn the power OFF and ON.
Error Point	Error Conditions	Error Point	Error Conditions
002	No reply from NeoROSA PCB. If the NeoRosa PCB signal is detected at machine power ON, but if the PCB communication terminates and T98-069 error is detected, the error point is rewrote to this T98-002 error message.	002	No reply from NeoROSA PCB. If NeoROSA PCB signal is detected at machine power ON, but if the PCB communication terminates and T98-069 error is detected, the error point is rewrote to this T98-002 error message.
005	Hardware error	005	Hardware error
006	FRAM check-sum error	006	FRAM check-sum error
025	Defective RF PCB (Unsuccessful initial communication with RF PCB).	025	Defective RF PCB (Unsuccessful initial communication with RF PCB).
034	Unable to write on EEPROM on the machine. (Cannot access EEPROM).	034	Unable to write on EEPROM on the machine. (Cannot access EEPROM).
035	CRC error on EEPROM on the machine (Defective EEPROM data).	035	CRC error on EEPROM on the machine (Defective EEPROM data).
038	Information between the PCB and EEPROM does not match.	038	Information between the PCB and EEPROM does not match.
039	Incorrect EEPROM.	039	Incorrect EEPROM.
051	Communication error with the touch-panel controller.		
053	Unsuccessful data readout from the Memory setting (program, mode, user paper).	053	Unsuccessful data readout from the Memory setting (program, mode, user paper).
054	Unsuccessful data writing of the Memory setting (program, mode, user paper).	054	Unsuccessful data writing of the Memory setting (program, mode, user paper).
055	Machine code number sent from NeoROSA PCB does not match with that from the Mechanical control PCB.	055	Machine code number sent from NeoROSA PCB does not match with that from the Mechanical control PCB.
063	Test mode setting is beyond the adjustable range.	063	Test mode setting is beyond the adjustable range.
064	Communication error between NeoROSA PCB and MCTL PCB.	064	Communication error between NeoROSA PCB and MCTL PCB.
065	Communication error between NeoROSA PCB and MCTL PCB (01) - on MCTL PCB side.	065	Communication error between NeoROSA PCB and MCTL PCB (01) - on MCTL PCB side.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
067	Communication error between NeoROSA PCB and MCTL PCB (03) - on MCTL PCB side.	067	Communication error between NeoROSA PCB and MCTL PCB (03) - on MCTL PCB side.
068	Communication error between NeoROSA PCB and MCTL PCB (04) - on MCTL PCB side.	068	Communication error between NeoROSA PCB and MCTL PCB (04) - on MCTL PCB side.
069	Communication error between NeoROSA PCB and MCTL PCB (05) - on MCTL PCB side.	069	Communication error between NeoROSA PCB and MCTL PCB (05) - on MCTL PCB side.
070	Communication error between NeoROSA PCB and MCTL PCB (06) - on MCTL PCB side.	070	Communication error between NeoROSA PCB and MCTL PCB (06) - on MCTL PCB side.
071	Communication error between NeoROSA PCB and MCTL PCB (07) - on MCTL PCB side.	071	Communication error between NeoROSA PCB and MCTL PCB (07) - on MCTL PCB side.
072	Communication error between NeoROSA PCB and MCTL PCB (08) - on MCTL PCB side.	072	Communication error between NeoROSA PCB and MCTL PCB (08) - on MCTL PCB side.
073	Communication error between NeoROSA PCB and MCTL PCB (09) - on MCTL PCB side.	073	Communication error between NeoROSA PCB and MCTL PCB (09) - on MCTL PCB side.
074	Communication error between NeoROSA PCB and MCTL PCB (10) - on NeoROSA PCB side.	074	Communication error between NeoROSA PCB and MCTL PCB (10) - on NeoROSA PCB side.
075	Communication error between NeoROSA PCB and MCTL PCB (11) - on NeoROSA PCB side.	075	Communication error between NeoROSA PCB and MCTL PCB (11) - on NeoROSA PCB side.
076	Communication error between NeoROSA PCB and MCTL PCB (12) - on NeoROSA PCB side.	076	Communication error between NeoROSA PCB and MCTL PCB (12) - on NeoROSA PCB side.
077	Communication error between NeoROSA PCB and MCTL PCB (13) - on NeoROSA PCB side.	077	Communication error between NeoROSA PCB and MCTL PCB (13) - on NeoROSA PCB side.
078	Communication error between NeoROSA PCB and MCTL PCB (14) - on NeoROSA PCB side.	078	Communication error between NeoROSA PCB and MCTL PCB (14) - on NeoROSA PCB side.
079	Communication error between NeoROSA PCB and MCTL PCB (15) - on NeoROSA PCB side.	079	Communication error between NeoROSA PCB and MCTL PCB (15) - on NeoROSA PCB side.
080	Communication error between NeoROSA PCB and MCTL PCB (16) - on NeoROSA PCB side.	080	Communication error between NeoROSA PCB and MCTL PCB (16) - on NeoROSA PCB side.
081	Communication error between NeoROSA PCB and MCTL PCB (17) - on NeoROSA PCB side.	081	Communication error between NeoROSA PCB and MCTL PCB (17) - on NeoROSA PCB side.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
082	Communication error between NeoROSA PCB and MCTL PCB (18) - on NeoROSA PCB side.	082	Communication error between NeoROSA PCB and MCTL PCB (18) - on NeoROSA PCB side.
083	Communication error between NeoROSA PCB and MCTL PCB (19) - on NeoROSA PCB side.	083	Communication error between NeoROSA PCB and MCTL PCB (19) - on NeoROSA PCB side.
		084	Communication error between NeoROSA PCB and MCTL PCB (20) - on NeoROSA PCB side.
097	Test mode setting in the Print drum memory is beyond the adjustable range.		
098	Machine serial number information on EEPROM does not match with that of FRAM.	098	Machine serial number information on EEPROM does not match with that of FRAM.
119	Defective image PCB (memory check error on the image processing IC).	119	Defective image PCB (memory check error on the image processing IC).
120	Timeout on the scanner serial communication.	120	Timeout on the scanner serial communication.
129	Defective scanner gate array PCB (memory check error on the gate array).	129	Defective scanner gate array PCB (memory check error on the gate array).
245	Timeout error on master transfer during master-making (related to Write pulse motor).	245	Timeout error on master transfer during master-making (related to Write pulse motor).
246	Timeout error on master transfer during master-making (related to Load pulse motor).	246	Timeout error on master transfer during master-making (related to Load pulse motor).
422	The light emittance from the Paper sensor (send) exceeded the maximum allowance during the Automatic Multiple Paper Feed Adjustment [paper sensor sensitivity adjustment] by Test Mode No.705.	422	The light emittance from the Paper sensor (send) exceeded the maximum allowance during the Automatic Multiple Paper Feed Adjustment [paper sensor sensitivity adjustment] by Test Mode No.705.
423	The light emittance from the Paper sensor (send) exceeded the minimum allowance during the Automatic Multiple Paper Feed Adjustment [paper sensor sensitivity adjustment] by Test Mode No.705.	423	The light emittance from the Paper sensor (send) exceeded the minimum allowance during the Automatic Multiple Paper Feed Adjustment [paper sensor sensitivity adjustment] by Test Mode No.705.
735	24V-OP does not go ON. (Possible broken Fuse for 24V-P area).	735	24V-OP does not go ON. (Possible broken Fuse for 24V-P area).
736	Broken fuse on RF-Tag assembly.	736	Broken fuse on RF-Tag assembly.
921	The USB controller chip is not responding when PC and printer is connected by USB cable.		
		923	MCTL PCB Flash ROM- Check-sum error
		924	Unsuccessful writing on the MCTL PCB flash memory.
		925	Unsuccessful readout from the MCTL PCB flash memory.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
934	Communication error between MCTL PCB and RF PCB. (on FR PCB side)	934	Communication error between MCTL PCB and RF PCB. (on FR PCB side)
935	Communication error between MCTL PCB and RF PCB. (on MCTL PCB side)	935	Communication error between MCTL PCB and RF PCB. (on MCTL PCB side)
937	Undefined serial number.	937	Undefined serial number.
938	FRAM version down.	938	FRAM version down.
947	24V-A does not go ON. (Possible broken Fuse for 24V-A area).	947	24V-A does not go ON. (Possible broken Fuse for 24V-A area).
948	24V-A does not go ON. (Possible broken Fuse for 24V-B area).	948	24V-A does not go ON. (Possible broken Fuse for 24V-B area).
949	24V-A does not go OFF.	949	24V-A does not go OFF.
950	24V-B does not go OFF.	950	24V-B does not go OFF.
952	NeoROSA PCB flash memory check-sum error.	952	NeoROSA PCB flash memory check-sum error.
953	Unsuccessful writing on the NeoROSA PCB flash memory.	953	Unsuccessful writing on the NeoROSA PCB flash memory.
960	Unsuccessful readout from the NeoROSA PCB flash memory.		
961	NeoROSA PCB flash memory unused.		
978	Incorrect power ON command from MCTL PCB when machine power turned ON.		
979	Abnormal flash memory setting on the NeoROSA PCB.		
983	24V-C does not go ON. (Possible broken Fuse for 24V-C area).		
984	24V-C does not go OFF.		

Error Type	T99 [Software error]	Error Type	T99 [Software error]
LCD Display	T99-xxx	LED Display	No indication
Description	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Error position	
To reset display	Turn the power OFF and ON.	To reset display	Turn the power OFF and ON.
Error Point	Error Conditions	Error Point	Error Conditions
181	Timeout on Image processing time.		

Jam errors (A)**

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	A01 [Master feed error]	Error Type	A01 [Master feed error]
LCD Display Description	A01-xxx Master Miss-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place	LED Display Error position	LED 4 (Master making area)
To reset display	Pull out the Master making unit, rewind the master and reinstall.	To reset display	Pull out the Master making unit, rewind the master and reinstall.
Error Point	Error Conditions	Error Point	Error Conditions
201	The Master positioning sensor does not go ON even after the Write pulse motor is activated during the master-positioning, master-cut, or master-loading operation.	201	The Master positioning sensor does not go ON even after the Write pulse motor is activated during the master-positioning, master-cut, or master-loading operation.
202	The Master positioning sensor does not go OFF even when the Write pulse motor is reversed during the master-positioning or at start of master-making operation.	202	The Master positioning sensor does not go OFF even when the Write pulse motor is reversed during the master-positioning or at start of master-making operation.
211	The Master positioning sensor is ON during standby.	211	The Master positioning sensor is ON during standby.
214	The Master positioning sensor is ON at the start of master making.	214	The Master positioning sensor is ON at the start of master making.
215	Sensor stop position of the Write motor is differ with programmed stop position.	215	Sensor stop position of the Write motor is differ with programmed stop position.
258	Once after the Master end sensor detects the master end mark, the Master end sensor detected the end mark again.	215	Once after the Master end sensor detects the master end mark, the Master end sensor detected the end mark again.

Error Type	A02 [Master loading error]	Error Type	A02 [Master loading error]
LCD Display Description	A02-xxx Master Loading Error Pull Out Print Drum and Discard Master	LED Display Error position	LED 3 (Print drum area)
To reset display	1. Pull out the Print drum and remove the master from the drum. 2. Return the Print drum in place. 3. Press the [START] key.	To reset display	1. Pull out the Print drum and remove the master from the drum. 2. Return the Print drum in place. 3. Press the [START] key.
Error Point	Error Conditions	Error Point	Error Conditions
509	The Master loading sensor was OFF when the master was checked at a specified drum angle during the master loading operation.	509	The Master loading sensor was OFF when the master was checked at a specified drum angle during the master loading operation.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	A04 [Master detected on print drum]	Error Type	A04 [Master detected on print drum]
LCD Display Description	A04-xxx Master Disposal Error Pull Out Print Drum and Discard Master	LED Display Error position	LED 3 (Print drum area)
To reset display	1. Pull out the Print drum and remove the master from the drum. 2. Return the Print drum in place. 3. Press the [START] key.	To reset display	1. Pull out the Print drum and remove the master from the drum. 2. Return the Print drum in place. 3. Press the [START] key.
Error Point	Error Conditions	Error Point	Error Conditions
303	Check Print Drum - Master disposal error / Master disposal jam.	303	Check Print Drum - Master disposal error / Master disposal jam.

Error Type	A05 [Master detected in the master disposal area]	Error Type	A05 [Master detected in the master disposal area]
LCD Display Description	A05-xxx Master Jammed in Disposal Unit Pull Out Master Disposal Box and Remove Jammed Master	LED Display Error position	LED 5 (Master removal area)
To reset display	Pull out Master disposal box and remove the jammed master, if the error persists, Call Service	To reset display	Pull out Master disposal box and remove the jammed master, if the error persists, Call Service
Error Point	Error Conditions	Error Point	Error Conditions
304	The Master removal sensor was ON at the completion of the master disposal.	304	The Master removal sensor was ON at the completion of the master disposal.
312	The Master removal sensor was ON at the start of the master making.	312	The Master removal sensor was ON at the start of the master making.
315	The Master removal sensor was ON after the completion of the recovery movement.	315	The Master removal sensor was ON after the completion of the recovery movement.

Error Type	A06 [Check paper feed tray]	Error Type	A06 [Check paper feed tray]
LCD Display Description	A06-xxx Safety SW on Standard Feed Tray is Activated Reset paper on Standard Feed Tray	LED Display Error position	LED 1 (Paper feed tray area)
To reset display	Check underneath the Standard feed tray (Paper feed tray) and on top of the printing paper for any obstructions. Remove if any exist.	To reset display	Check underneath the Standard feed tray (Paper feed tray) and on top of the printing paper for any obstructions. Remove if any exist.
Error Point	Error Conditions	Error Point	Error Conditions
403	Either the Upper or Lower safety switch of the Paper feed tray is OFF. Note: This detection is not made when the machine is in low-power-mode (24V OFF).	403	Either the Upper or Lower safety switch of the Paper feed tray is OFF. Note: This detection is not made when the machine is in low-power-mode (24V OFF).

J- codes (Paper/ Original errors)

Error Type	J** [Paper/Original jam error]
Description	J** Paper Jam Remove Paper in Indicated Areas and Press [OK] Button
To reset display	Remove jammed paper or original and press Reset key.

When A and B code errors listed below occur, they are substituted by J** error codes. The two-digit error-type number which follows after the J is the sum of the Corresponding Values for each of those A-code errors and B-code errors.

Pressing the asterisk key on the operation panel will display the details of the J** errors.

Note: The errors B07, B09, B11 and B17 do not exist on this machine model.

Error Type	Error Description	Bit	Corresponding Value
A10	AF original feed error	0	1
A09	Paper ejection error	1	2
A08	Paper jam on print drum	2	4
A07	Paper feed error	3	8
B07	MTPF: Paper jam error (upper)	6	16
B09	MTPF: Paper jam error (lower)	7	32
B11	MTPF: Tray-1 paper jam error	8	64
B17	MTPF: Tray-2 paper jam error	9	128
B03	Sorter: Jam error	10	256

Example: If A10 and A08 jam errors occur at the same time, the panel message will show error J05.

Jam errors message which comes up after pressing the asterisk key in J** message.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	A07 [Paper feed error]	Error Type	A07 [Paper feed error]
LCD Display Description	J** Paper Jam Remove Paper in Indicated Areas and Press [OK] Button Display -No.1 area	LED Display Error position	LED 6 (Paper feed area)
To reset display	1. Check the paper feed side and remove the jammed paper. 2. Reload printing paper. 3. Press the <RESET> key if error display does not clear. When using special paper, adjust the Paper Feed Pressure Adjustment Lever according to the paper characteristics.	To reset display	1. Check the paper feed side and remove the jammed paper. 2. Reload printing paper. 3. Press the <RESET> key if error display does not clear. When using special paper, adjust the Paper Feed Pressure Adjustment Lever according to the paper characteristics.
Error Point	Error Conditions	Error Point	Error Conditions
409	The Paper ejection sensor was OFF when the paper should have arrived, and the Paper sensor was ON when the machine stopped (Paper misfeed).	409	The Paper ejection sensor was OFF when the paper should have arrived, and the Paper sensor was ON when the machine stopped (Paper misfeed).
412	The Paper sensor was OFF three times in succession when a paper misfeed was detected (paper misfeed).	412	The Paper sensor was OFF three times in succession when a paper misfeed was detected (paper misfeed).
413	The Paper sensor was still ON (detecting paper) when the paper should have went out from the sensor.		
418	The Paper sensor was ON at the start of machine operation when the START button was pressed.	418	The Paper sensor was ON at the start of machine operation when the START button was pressed.
429	Paper feed error (recovery error).	429	Paper feed error (recovery error).
432	The Paper sensor was ON when the machine went into paper feed retry movement after a paper misfeed.	432	The Paper sensor was ON when the machine went into paper feed retry movement after a paper misfeed.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	A08 [Paper jam on print drum]	Error Type	A08 [Paper jam on print drum]
LCD Display Description	J** Paper Jam Remove Paper in Indicated Areas and Press [OK] Button Display -No.3 area	LED Display Error position	LED 3 (Print drum area)
To reset display	Pull out the Print Drum. Remove the jammed paper. <Do not touch the separation hook or master removal hook when putting your hand into the unit to remove paper. The sharp tips of the hooks can hurt your hand.>	To reset display	Pull out the Print Drum. Remove the jammed paper. <Do not touch the separation hook or master removal hook when putting your hand into the unit to remove paper. The sharp tips of the hooks can hurt your hand.>
Error Point	Error Conditions	Error Point	Error Conditions
410	The Paper ejection sensor was OFF when paper should have arrived, and the Paper sensor was OFF when the machine stopped (paper jam on the print drum).	409	The Paper ejection sensor was OFF when paper should have arrived, and the Paper sensor was OFF when the machine stopped (paper jam on the print drum).
430	Paper jam on the Print drum (recovery error).	412	Paper jam on the Print drum (recovery error).

Error Type	A09 [Paper ejection error]	Error Type	A09 [Paper ejection error]
LCD Display Description	J** Paper Jam Remove Paper in Indicated Areas and Press [OK] Button Display -No.4 area	LED Display Error position	LED 7 (Print ejection area)
To reset display	Check for any jammed paper on the paper exit area. When using special paper, adjust the Paper Arranger on the Receiving Tray Paper Guides according to the paper characteristics.	To reset display	Check for any jammed paper on the paper exit area. When using special paper, adjust the Paper Arranger on the Receiving Tray Paper Guides according to the paper characteristics.
Error Point	Error Conditions	Error Point	Error Conditions
411	The Paper ejection sensor was ON when the paper should have left the Paper ejection sensor.	411	The Paper ejection sensor was ON when the paper should have left the Paper ejection sensor.
417	The Paper ejection sensor was ON at the start of machine operation when the START button was pressed.	417	The Paper ejection sensor was ON at the start of machine operation when the START button was pressed.
431	The Paper ejection error (recovery error).	431	The Paper ejection error (recovery error).

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	A10 [AF original feed error]	Error Type	A10 [AF original feed error]
LCD Display Description	J** Paper Jam Remove Paper in Indicated Areas and Press [OK] Button Display -No.2 area	LED Display Error position	LED 8 (Image scanning area)
To reset display	Pull the AF Original Release Lever (Option) to the right, and remove the original. Raise the Platen Cover, turn the AF Original Release Dial and remove the original.	To reset display	Pull the AF Original Release Lever (Option) to the right, and remove the original. Raise the Platen Cover, turn the AF Original Release Dial and remove the original.
Error Point	Error Conditions	Error Point	Error Conditions
102	The original is pulled out from the AF unit before the scanning is completed.	102	The original is pulled out from the AF unit before the scanning is completed.
103	Original jammed at the AF registration sensor. (The AF registration sensor does not go OFF after the AF read sensor goes ON)	103	Original jammed at the AF registration sensor. (The AF registration sensor does not go OFF after the AF read sensor goes ON)
105	Original jammed at AF read sensor. (The AF read sensor does not go OFF after the AF registration sensor goes OFF)	105	Original jammed at AF read sensor. (The AF read sensor does not go OFF after the AF registration sensor goes OFF)
106	Original jammed at AF original ejection sensor. (The AF original ejection sensor does not go OFF after the AF read sensor goes OFF)	106	Original jammed at AF original ejection sensor. (The AF original ejection sensor does not go OFF after the AF read sensor goes OFF)
107	The Original does not arrive to the AF registration sensor.	107	The Original does not arrive to the AF registration sensor.
108	The Original does not arrive to the AF read sensor.	108	The Original does not arrive to the AF read sensor.
109	The Original does not arrive to the AF original ejection sensor. (The AF original ejection sensor does not go ON after the AF read sensor goes ON)	109	The Original does not arrive to the AF original ejection sensor. (The AF original ejection sensor does not go ON after the AF read sensor goes ON)
169	The AF feed cover is opened due to original jam, while originals are present on the tray.	169	The AF feed cover is opened due to original jam, while originals are present on the tray.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	A16 [Waiting for the master to be removed from the drum]	Error Type	A16 [Waiting for the master to be removed from the drum]
LCD Display Description	A16-xxx Master Remains on Print Drum Pull Out Print Drum and Remove Master	LED Display Error position	LED 3 (Print drum area)
To reset display	1. Pull out the Print drum and remove the master from the drum. 2. Return the Print drum in place. 3. Press the [START] key.	To reset display	1. Pull out the Print drum and remove the master from the drum. 2. Return the Print drum in place. 3. Press the [START] key.
Error Point	Error Conditions	Error Point	Error Conditions
525	Waiting for the master to be removed from the Print drum.	525	Waiting for the master to be removed from the Print drum.

Error Type	A17 [Cutter error]	Error Type	A17 [Cutter error]
LCD Display Description	A17-xxx System Error in Master Making Unit Take Out Master and then Close Master Making Unit Cover	LED Display Error position	LED 4 (Master making area)
To reset display	Pull out the Master Making Unit and remove master. Closing the Master Making Unit Cover will reset the error. Setup the master again.	To reset display	Pull out the Master Making Unit and remove master. Closing the Master Making Unit Cover will reset the error. Setup the master again.
Error Point	Error Conditions	Error Point	Error Conditions
209	The Cutter HP switch is OFF when master making starts, when the master material is set in the Master making unit.	209	The Cutter HP switch is OFF when master making starts, when the master material is set in the Master making unit.

Error Type	A34 [Requesting for the master to be reset]	Error Type	A34 [Requesting for the master to be reset]
LCD Display Description	A34-xxx Master Not Set in Place Insert Lead Edge of Master into Master Entrance and Close Master Making Unit	LED Display Error position	LED 4 (Master making area)
To reset display	Pull out the Master Making Unit and reinstall the master. If the leading edge of the master is wrinkled or torn, cut the edge straight and reinstall.	To reset display	Pull out the Master Making Unit and reinstall the master. If the leading edge of the master is wrinkled or torn, cut the edge straight and reinstall.
Error Point	Error Conditions	Error Point	Error Conditions
218	Requesting for the master material to be reset into the Master making unit.	218	Requesting for the master material to be reset into the Master making unit.

Option errors (B)**

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	B01 [Keycard counter: No card]	Error Type	B01 [Keycard counter: No card]
LCD Display	B01-xxx	LED Display	LED 9 (Card area)
Description	Insert Card in Key/Card Counter	Error position	
To reset display	Insert card.	To reset display	Insert card.
Error Point	Error Conditions	Error Point	Error Conditions
730	Keycard counter: No card	730	Keycard counter: No card

Error Type	B02 [Sorter error - Serviceman Call]
LCD Display	B02-xxx
Description	Check sorter panel display.
To reset display	Check the Sorter.
Error Point	Error Conditions
702	Serviceman call error command was received from the sorter.

Error Type	B03 [Sorter error - Jam]
LCD Display	B03-xxx
Description	Paper Jam Remove paper in Indicated Areas and Press [OK] Button.
To reset display	Remove the jammed paper.
Error Point	Error Conditions
703	Received paper jam error command was received from the sorter.

Error Type	B04 [Sorter error - Door open]
LCD Display	B04-xxx
Description	Close sorter cover.
To reset display	Close the Sorter cover.
Error Point	Error Conditions
707	Cover open error command was received from the sorter.

Error Type	B05 [Sorter Error - Other errors]
LCD Display	B05-xxx
Description	Check Sorter panel Display
To reset display	Check the Sorter.
Error Point	Error Conditions
709	Other error command was received from the sorter.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	B21 [Storage Memory - Unable to Read or Write]		
LCD Display	B21-xxx !! System Error !!		
Description	Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		
To reset display	Switch OFF the power and then switch ON the power back.		
Error Point	Error Conditions		
714	File name error on the Storage Memory.		
715	Access error on the Storage Memory.		
716	Other error on the Storage Memory.		

Error Type	B22 [Job separator: Power off]	Error Type	B22 [Job separator: Power off]
LCD Display	B22-xxx	LED Display	LED 10 (Sorter area)
Description	!! Job Separator is OFF !! Turn On Power Switch of it	Error position	
To reset display	Press the <RESET> Key and check and switch ON the power of Job Separator.	To reset display	Press the <RESET> Key and check and switch ON the power of Job Separator.
Error Point	Error Conditions	Error Point	Error Conditions
721	With the [Tape separation] function set ON, no power is supplied to the job separator when start key is pressed.	721	With the [Tape separation] function set ON, no power is supplied to the job separator when start key is pressed.
727	After cluster-A signal turned ON, BUSY-signal stayed [L] more than 7 seconds (power to job separator was turned OFF while the tape is being ejected.	727	After cluster-A signal turned ON, BUSY-signal stayed [L] more than 7 seconds (power to job separator was turned OFF while the tape is being ejected.

Error Type	B23 [Job separator: No tape]	Error Type	B23 [Job separator: No tape]
LCD Display	B23-xxx	LED Display	LED 10 (Sorter area)
Description	No Paper Tape in Job Separator Replace Tape Roll	Error position	
To reset display	Press the <RESET> Key and set paper tape in Job Separator.	To reset display	Press the <RESET> Key and set paper tape in Job Separator.
Error Point	Error Conditions	Error Point	Error Conditions
722	With the [Tape separation] function set ON, no tape detected in the job separator when the start key is pressed.	722	With the [Tape separation] function set ON, no tape detected in the job separator when the start key is pressed.
723	No tape remains in job separator upon completion of the tape-ejection operation.	723	No tape remains in job separator upon completion of the tape-ejection operation.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	B24 [Job separator: Tape jam]	Error Type	B24 [Job separator: Tape jam]
LCD Display Description	B24-xxx Paper Tape Jam in Job Separator Remove Paper Tape	LED Display Error position	LED 10 (Sorter area)
To reset display	Press the <RESET> Key and remove the jammed tape.	To reset display	Press the <RESET> Key and remove the jammed tape.
Error Point	Error Conditions	Error Point	Error Conditions
724	Tape jam detected when the start key is pressed with the [Tape separation] function set to ON.	724	Tape jam detected when the start key is pressed with the [Tape separation] function set to ON.
725	The tape-jam detection signal is [H] for more than 1.2 seconds after cluster-A signal turns ON (tape misfeed).	725	The tape-jam detection signal is [H] for more than 1.2 seconds after cluster-A signal turns ON (tape misfeed).
726	Job separator tape-jam detection signal is [L] when the BUSY signal changes from [L] to [H] (or after 7 sec. at [L]) after the cluster-A signal goes ON (tape misfeed).	726	Job separator tape-jam detection signal is [L] when the BUSY signal changes from [L] to [H] (or after 7 sec. at [L]) after the cluster-A signal goes ON (tape misfeed).

Error Type	B25 [Sorter - Tray Full Error]
LCD Display Description	B25-xxx Check Sorter Panel Display
To reset display	Remove papers from the Sorter tray.
Error Point	Error Conditions
704	Sorter tray full.

Error Type	B26 [Sorter - Paper Remaining on the Tray]
LCD Display Description	B26-xxx Check Sorter Panel Display
To reset display	Remove paper from the Sorter tray.
Error Point	Error Conditions
705	Paper remaining on the Sorter tray.

Error Type	B27 [Sorter - Stapler Error]
LCD Display Description	B27-xxx Check Sorter Panel Display
To reset display	Check the stapler and correct the stapler problem.
Error Point	Error Conditions
706	Stapler error command is received from the sorter.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	B28 [Sorter - paper Size Error]		
LCD Display	B28-xxx		
Description	Check Sorter panel Display		
To reset display	Remove paper from the Sorter tray.		
Error Point	Error Conditions		
708	Paper size error command was received from the Sorter.		
Error Type	B29 [USB Memory - Device Error (USB HUB)]		
LCD Display	B29-xxx		
Description	Can not identify (USB hub)		
To reset display	Connect the correct corresponding USB Flash Drive.		
Error Point	Error Conditions		
926	The USB hub connected to this machine.		
Error Type	B30 [USB Memory - Device Error]		
LCD Display	B30-xxx		
Description	Can not identify		
To reset display	Connect the correct corresponding USB Flash Drive.		
Error Point	Error Conditions		
910	Unrecognized USB device connected to this machine.		
Error Type	B31 [Network cable not connected]	Error Type	B31 [Network cable not connected]
LCD Display	B31-xxx	LED Display	
Description	!! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer	Error position	No indication
To reset display	Press the <RESET> Key and connect the network cable.	To reset display	Press the <RESET> Key and connect the network cable.
Error Point	Error Conditions	Error Point	Error Conditions
916	Network cable is not connected when the machine is powered ON.	916	Network cable is not connected when the machine is powered ON.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	B32 [NIC - Communication error]	Error Type	B32 [NIC - Communication error]
LCD Display	B32-xxx	LED Display	No indication
Description	!! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer	Error position	
To reset display	Press the <RESET> Key, and check the network cable and linked printer.	To reset display	Press the <RESET> Key, and check the network cable and linked printer.
Error Point	Error Conditions	Error Point	Error Conditions
914	MIB (Management Information Base) request error		
915	MIB no reply		
917	Communication error on the network.	917	Communication error on the network.
920	Error detected by NET-D Card - NAK (negative acknowledgement was received).	920	Error detected by NET-C Card - NAK (negative acknowledgement was received).

Error Type	B33 [IP address set up error]	Error Type	B33 [IP address set up error]
LCD Display	B33-xxx	LED Display	No indication
Description	No IP Address Assigned to This Printer Contact Your Network Administrator	Error position	
To reset display	Press the <RESET> Key, and enter the IP address..	To reset display	Press the <RESET> Key, and enter the IP address..
Error Point	Error Conditions	Error Point	Error Conditions
931	DHCP is ON, but DHCP server is not found.	931	DHCP is ON, but DHCP server is not found.

Error Type	B34 [Linked Printer - No Toner Error]	Error Type	B34 [Linked Printer Error]
LCD Display	B34-xxx	LED Display	No indication
Description	No Toner in Linked Printer	Description	
To reset display	Press the <RESET> Key and replace the toner on the linked printer.	To reset display	Press the <RESET> Key and correct the error on the linked printer.
Error Point	Error Conditions	Error Point	Error Conditions
919	No toner in the linked printer.	919	Error on the linked printer.

Error Type	B35 [Linked Printer: Call Service Error]
LCD Display	B35-xxx
Description	Linked Printer in Error
To reset display	Press the <RESET> Key, and correct the error on the linked printer.
Error Point	Error Conditions
970	Error in the linked printer.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	B38 [USB Memory: Cannot create a folder]		
LCD Display	B38-xxx		
Description	Can not identify		
To reset display	Press the <RESET> Key, and disconnect USB flash drive.		
Error Point	Error Conditions		
911	Fail to create RISO folder		

Error Type	B39 [USB Memory: Cannot read or write]		
LCD Display	B39-xxx		
Description	Can not identify		
To reset display	Press the <RESET> Key, and disconnect USB flash drive.		
Error Point	Error Conditions		
999	Detects device error		

Errors involving consumable (C)**

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	C01 [Replace ink cartridge]	Error Type	C01 [Replace ink cartridge]
LCD Display Description	C01-xxx No Ink Replace Ink Cartridge	LED Display Error position	LED 3 (Print drum area)
To reset display	Remove the empty ink cartridge and replace with a new one.	To reset display	Remove the empty ink cartridge and replace with a new one.
Error Point	Error Conditions	Error Point	Error Conditions
512	The Ink sensor did not go ON even when inking was performed for a preset duration.	512	The Ink sensor did not go ON even when inking was performed for a preset duration.
563	Ink remaining amount is zero from the information on the RF-Tag.	563	Ink remaining amount is zero from the information on the RF-Tag.
574	Inkless error was detected 5 times consecutively on one same ink cartridge.	574	Inkless error was detected 5 times consecutively on one same ink cartridge.

Error Type	C02 [Replace master roll]	Error Type	C02 [Replace master roll]
LCD Display Description	C02-xxx No Master Replace Master Roll	LED Display Error position	LED 4 (Master making area)
To reset display	Remove the empty master roll and replace with a new one.	To reset display	Remove the empty master roll and replace with a new one.
Error Point	Error Conditions	Error Point	Error Conditions
200	The master end was detected twice in succession at 10 milliseconds intervals during master transport.	200	The master end was detected twice in succession at 10 milliseconds intervals during master transport.
240	Master remaining amount is zero from the RF-Tag information.	240	Master remaining amount is zero from the RF-Tag information.
253	Master-less error was detected twice consecutively on one same master-roll.	253	Master-less error was detected twice consecutively on one same master-roll.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	C03 [Master disposal box full]	Error Type	C03 [Master disposal box full]
LCD Display Description	C03-xxx Master Disposal Box is Full Empty Master Disposal Box	LED Display Error position	LED 5 (Master removal area)
To reset display	Remove the Master disposal box from the machine, throw away the disposed master from the Disposal box and return the Disposal box in the machine after an interval of over 5 seconds.	To reset display	Remove the Master disposal box from the machine, throw away the disposed master from the Disposal box and return the Disposal box in the machine after an interval of over 5 seconds.
Error Point	Error Conditions	Error Point	Error Conditions
308	Compression detection position was reached before the master-compression-motor encoder-sensor count reached the specified level, after the master compression motor turned ON in the compressing direction.	308	Compression detection position was reached before the master-compression-motor encoder-sensor count reached the specified level, after the master compression motor turned ON in the compressing direction.
311	Master disposal software counter reached to the defined number.	311	Master disposal software counter reached to the defined number.

Error Type	C04 [No paper on the Standard paper Feed Tray]	Error Type	C04 [No paper on the Standard paper Feed Tray]
LCD Display Description	C04-xxx Add Paper	LED Display Error position	LED 1 (Paper feed tray area)
To reset display	Add paper on the standard paper feed tray.	To reset display	Add paper on the standard paper feed tray.
Error Point	Error Conditions	Error Point	Error Conditions
402	The Paper detection sensor is OFF (not detecting paper).	402	The Paper detection sensor is OFF (not detecting paper).

Set check errors (D)**

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	D01 [Print drum not set]	Error Type	D01 [Print drum not set]
LCD Display	D01-xxx	LED Display	LED 3 (Print drum area)
Description	Set Print Drum in Place	Error position	
To reset display	Set the Print drum in the machine.	To reset display	Set the Print drum in the machine.
Error Point	Error Conditions	Error Point	Error Conditions
526	The Print drum is not set in the machine (Drum connection signal, the Drum safety switch, and the Print drum lock sensor is OFF).	526	The Print drum is not set in the machine (Drum connection signal, the Drum safety switch, and the Print drum lock sensor is OFF).
527	Print drum connection signal is OFF when the Print drum was inserted in the machine.	527	Print drum connection signal is OFF when the Print drum was inserted in the machine.
528	The Drum safety switch is OFF when the Print drum was inserted in the machine.	528	The Drum safety switch is OFF when the Print drum was inserted in the machine.
529	The Print drum lock sensor is OFF when the Print drum was inserted in the machine (time-out: 5 seconds).	529	The Print drum lock sensor is OFF when the Print drum was inserted in the machine (time-out: 5 seconds).
530	Print drum connection signal does not go OFF within 5 seconds after the Drum safety switch went OFF when the Print drum was pulled out.	530	Print drum connection signal does not go OFF within 5 seconds after the Drum safety switch went OFF when the Print drum was pulled out.

Error Type	D02 [Incorrect print drum]	Error Type	D02 [Incorrect print drum]
LCD Display	D02-xxx	LED Display	LED 3 (Print drum area)
Description	Wrong-Type Print Drum Installed Replace with Correct Type	Error position	
To reset display	Set correct print drum in the machine.	To reset display	Set correct print drum in the machine.
Error Point	Error Conditions	Error Point	Error Conditions
532	Incorrect print drum is used. (Drum code)	532	Incorrect print drum is used.
580	Incorrect print drum is used. (Drum style)		

Error Type	D03 [Ink cartridge not set]	Error Type	D03 [Ink cartridge not set]
LCD Display	D03-xxx	LED Display	LED 3 (Print drum area)
Description	Install Ink Cartridge	Error position	
To reset display	Install the Ink cartridge in the Print drum.	To reset display	Install the Ink cartridge in the Print drum.
Error Point	Error Conditions	Error Point	Error Conditions
533	The Ink bottle set switch is OFF.	533	The Ink bottle set switch is OFF.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	D04 [Incorrect ink cartridge]	Error Type	D04 [Incorrect ink cartridge]
LCD Display Description	D04-xxx Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/ Riso office	LED Display Error position	LED 3 (Print drum)
To reset display	Replace with correct ink cartridge.	To reset display	Replace with correct ink cartridge.
Error Point	Error Conditions	Error Point	Error Conditions
534	Incorrect ink cartridge is used.	534	Incorrect ink cartridge is used.
560	The Ink RF-Tag is not detected on the Ink bottle.	560	The Ink RF-Tag is not detected on the Ink bottle.
561	Ink RF-Tag communication error (communication with the Ink cartridge was interfered by noise).	561	Ink RF-Tag communication error (communication with the Ink cartridge was interfered by noise).
562	Wrong ink cartridge information on the Ink RF-Tag.	562	Wrong ink cartridge information on the Ink RF-Tag.
564	Detected a mismatch in the Ink RF-Tag.	564	Detected a mismatch in the Ink RF-Tag.
575	RF-Tag software error.	575	RF-Tag software error.

Error Type	D05 [Master not set]	Error Type	D05 [Master not set]
LCD Display Description	D05-xxx Set Master in Place	LED Display Error position	LED 4 (Master making area)
To reset display	Insert leading edge of the master material into the master entrance and close the master making unit.	To reset display	Insert leading edge of the master material into the master entrance and close the master making unit.
Error Point	Error Conditions	Error Point	Error Conditions
210	The Master detection sensor is OFF (not detecting master material).	210	The Master detection sensor is OFF (not detecting master material).

Error Type	D07 [Master disposal box not set]	Error Type	D07 [Master disposal box not set]
LCD Display Description	D07-xxx Set Master Disposal Box in Place	LED Display Error position	LED 5 (Master removal area)
To reset display	Set the Master disposal box in the machine. (Both the Master disposal safety switch & Master disposal set sensor must become ON.)	To reset display	Set the Master disposal box in the machine. (Both the Master disposal safety switch & Master disposal set sensor must become ON.)
Error Point	Error Conditions	Error Point	Error Conditions
310	The Master disposal box set sensor is OFF	310	The Master disposal box set sensor is OFF

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	D08 [Master making unit not set]	Error Type	D08 [Master making unit not set]
LCD Display	D08-xxx	LED Display	LED 4 (Master making area)
Description	Set Master Making Unit in Place	Error position	
To reset display	Insert the Master making unit in the machine.	To reset display	Insert the Master making unit in the machine.
Error Point	Error Conditions	Error Point	Error Conditions
224	The Master making unit is not set (both the Master making unit safety switch and Master unit lock sensor are OFF).	224	The Master making unit is not set (both the Master making unit safety switch and Master unit lock sensor are OFF).
226	The Master making unit safety switch is still OFF when the Master making unit is set in position.	226	The Master making unit safety switch is still OFF when the Master making unit is set in position.
227	The Master making unit lock sensor is still OFF when the Master making unit is set in position (timeout: 5 seconds).	227	The Master making unit lock sensor is still OFF when the Master making unit is set in position (timeout: 5 seconds).
228	The Master making unit lock sensor is still ON even after the Master making unit safety switch went OFF, when the Master making unit was pulled out of the machine.	228	The Master making unit lock sensor is still ON even after the Master making unit safety switch went OFF, when the Master making unit was pulled out of the machine.

Error Type	D09 [Master making unit cover is not closed]	Error Type	D09 [Master making unit cover is not closed]
LCD Display	D09-xxx	LED Display	LED 4 (Master making area)
Description	Close Master Making Unit Cover	Error position	
To reset display	Close the Master making unit cover.	To reset display	Close the Master making unit cover.
Error Point	Error Conditions	Error Point	Error Conditions
212	The Master making unit upper cover set switch is OFF.	212	The Master making unit upper cover set sensor is OFF.

Error Type	D11 [Front cover not closed]	Error Type	D11 [Front cover not closed]
LCD Display	D11-xxx	LED Display	LED 2 (Front cover area)
Description	Close Front Cover	Error position	
To reset display	Close the Front cover of the machine.	To reset display	Close the Front cover of the machine.
Error Point	Error Conditions	Error Point	Error Conditions
535	The Front cover set sensor is OFF.	535	The Front cover set sensor is OFF.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	D13 [Rear cover not closed]	Error Type	D13 [Rear cover not closed]
LCD Display Description	D13-xxx Rear Cover of Main Body is Off Call Service	LED Display Error position	No indication
To reset display	Close the Rear cover of the machine to activate the Rear cover (serviceman safety) switch. [Field serviceman has to close and screw on the Rear cover]	To reset display	Close the Rear cover of the machine to activate the Rear cover (serviceman safety) switch. [Field serviceman has to close and screw on the Rear cover]
Error Point	Error Conditions	Error Point	Error Conditions
009	The Rear cover is opened (The Serviceman safety switch is OFF).	009	The Rear cover is opened (The Serviceman safety switch is OFF).

Error Type	D17 [Incorrect master roll]	Error Type	D17 [Incorrect master roll]
LCD Display Description	D17-xxx Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/ Riso office	LED Display Error position	LED 4 (Master making area)
To reset display	Set a correct master roll in the machine.	To reset display	Set a correct master roll in the machine.
Error Point	Error Conditions	Error Point	Error Conditions
236	Incorrect master roll.	236	Incorrect master roll.
237	Master roll RF-Tag not detected.	237	Master roll RF-Tag not detected.
238	Master roll RF-Tag communication error. (Communication interrupted by noise)	238	Master roll RF-Tag communication error. (Communication interrupted by noise)
239	Incorrect information on the Master roll RF-Tag.	239	Incorrect information on the Master roll RF-Tag.
241	Mismatch in the Master roll RF-Tag information.	241	Mismatch in the Master roll RF-Tag information.
256	Master roll RF-Tag software error. Antenna channel selection error. Try to write data in the protection area in the Antenna PCB Rom.	256	Master roll RF-Tag software error. Antenna channel selection error. Try to write data in the protection area in the Antenna PCB Rom.

Error Type	D18 [Print drum is ready for removal]	Error Type	D18 [Print drum is ready for removal]
LCD Display Description	D18-xxx Print Drum has been Unlocked	LED Display Error position	LED 2 (Front cover area)
To reset display	Pull out the Print drum.	To reset display	Pull out the Print drum..
Error Point	Error Conditions	Error Point	Error Conditions
522	The Print drum is unlocked for its removal. (Drum lock Solenoid is ON).	522	The Print drum is unlocked for its removal. (Drum lock Solenoid is ON).

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	D19 [Master making unit is ready for removal]	Error Type	D19 [Master making unit is ready for removal]
LCD Display	D19-xxx	LED Display	LED 2 (Front cover area)
Description	Master Making Unit has been Unlocked	Error position	
To reset display	Pull out the Master making unit.	To reset display	Pull out the Master making unit.
Error Point	Error Conditions	Error Point	Error Conditions
223	The Master making unit is unlocked for its removal. (Lock Solenoid is ON).	223	The Master making unit is unlocked for its removal. (Lock Solenoid is ON).

Error Type	D22 [Print drum removal command]	Error Type	D22 [Print drum removal command]
LCD Display	D22-xxx	LED Display	LED 3 (Print drum area)
Description	Print Drum Not Set in Place. Press Print Drum Release Button and Pull Out Print Drum after the Button Lights	Error position	
To reset display	Pull out Print drum from the machine.	To reset display	Pull out Print drum from the machine.
Error Point	Error Conditions	Error Point	Error Conditions
540	Cannot access to the EEPROM on the Drum PCB.	540	Cannot access to the EEPROM on the Drum PCB. Timed out has occur during accessing to the EEPROM on the Drum PCB.
542	Drum PCB EEPROM data error.	542	Drum PCB EEPROM data error.

Warnings requiring service calls (E)**

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	E01 [Replace battery]	Error Type	E01 [Replace battery]
LCD Display Description	E01-xxx !!Battery Replacement!! Call Service	LED Display Error position	No indication
To reset display	Touch [Close], or press the <STOP> key or the <RESET> Key.	To reset display	Press the <STOP> Key or the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
010	Battery voltage was less than 2.1 V when the power was switched ON (weak battery: time to replace battery). *Make sure to replace the battery during the machine ON.	010	Battery voltage was less than 2.1 V when the power was switched ON (weak battery: time to replace battery). *Make sure to replace the battery during the machine ON.

Error Type	E02 [Maintenance call]	Error Type	E02 [Maintenance call]
LCD Display Description	E02-xxx !!Maintenance!! Call Service	LED Display Error position	No indication
To reset display	Touch [Close], or press the <STOP> key or the <RESET> Key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
011	Master counter reached the value set for the maintenance call (value set by test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]	011	Master counter reached the value set for the maintenance call (value set by test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]
012	Copy counter reached the value set for the maintenance call (value by set test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]	012	Copy counter reached the value set for the maintenance call (value by set test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]
022	Maintenance counter inside the Print drum reached the value set for the maintenance call (value set by test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]	022	Maintenance counter inside the Print drum reached the value set for the maintenance call (value set by test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]

Warnings [Miscellaneous] (F)**

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F01 [No master on print drum]	Error Type	F01 [No master on print drum]
LCD Display Description	F01-xxx No Master on Print Drum Make a New Master	LED Display Error position	LED 3 (Print drum area)
To reset display	Touch [Close].	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
015	There is no master on the Print drum at the start of printing.	015	There is no master on the Print drum at the start of printing.

Error Type	F02 [Master image larger than paper size (1)]
LCD Display Description	F02-xxx Page Format is Larger than Paper Size !! Possible Ink Smudges on Prints !!
To reset display	When printing from the machine; Touch [Continue], or press the <START> key. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
018	Paper size does not match with the image size on the Print drum at the start of printing. The paper size is smaller than the image size on the master.

Error Type	F03 [Multi-up printing - Incorrect paper size]	Error Type	F03 [Multi-up printing - Incorrect paper size]
LCD Display Description	F03-xxx !! Multi-Up is Not Available with This Paper Size !! Replace with Proper Paper of Standard Size	LED Display Error position	LED 1 (Paper feed tray area)
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
016	Tried to make multi-up printing with incorrect paper size.	016	Tried to make multi-up printing with incorrect paper size.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F04 [User Control: Limit count]		
LCD Display	F04-xxx		
Description	Reached to the limit count Contact the administrator		
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
905	Master count reached to limit count.		
906	Paper count reached to limit count.		

Error Type	F05 [Print quantity under Minimum Print Quantity]	Error Type	F05 [Print quantity under Minimum Print Quantity]
LCD Display	F05-xxx	LED Display	No indication
Description	Enter Print Quantity Over [N], Programmed Minimum Value	Error position	
To reset display	Enter print quantity value over the programmed minimum value the press the <START> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
019	In master making or printing, the print quantity selected is less than the minimum print quantity.	019	In master making or printing, the print quantity selected is less than the minimum print quantity.

Error Type	F08 [Auto Tray - Paper Size and Original Size does not Match]
LCD Display	F08
Description	!! No Auto Reproduction with This Original and Printing Paper !! Select Size Manually
To reset display	When changing the "size" setting; Touch [Size Setting]. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
017	When the Auto-Tray is selected, the original size (scanning ratio) and the printing paper set on the tray (s) did not match.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F10 [Master image larger than paper size (2)]		
LCD Display	F10-xxx		
Description	Page Format is Larger than Paper Size !! Possible Ink Smudges on Prints !! (Continue->PROOF Key)		
To reset display	When printing from the machine; Press the <PROOF> key. When stopping the print job; Touch [Cancel], or press the <STOP> or the <RESET> key.		
Error Point	Error Conditions		
021	Paper size does not match with the size of image on the print drum when test print is selected and activated.		

Error Type	F12 [Auto-Tray: Irregular Size Original]		
LCD Display	F12-xxx		
Description	Auto Paper Size Selection is Not Available for Irregular-Size Original Select Format Size to Store and then Restart		
To reset display	To specify the format for saving; Touch [Saving Format]. To cancel scanning; Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
024	Irregular size original was used when Auto-Tray was selected.		

Error Type	F15 [Paper size does not match with the paper on the paper receiving tray]		
LCD Display	F15-xxx		
Description	Receiving Tray Paper Guides Cannot Move Remove Paper from Receiving Tray		
To reset display	Touch [Cancel].		
Error Point	Error Conditions		
042	With the auto-control-paper-receiving-tray connected, the paper on the Receiving tray is larger than the printing paper.		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F17 [Print drum size does not match]		
LCD Display Description	F17-xxx [The message to appear when print drum is inserted.] !!The Print Drum Type has been Changed!! Select the Current Print Drum Type [The message to appear when print drum type is selected.] Invalid Print Drum has been Selected Change Drum, or Reselect Drum Size		
	To reset display		
Error Point		Error Conditions	
027		Different size print drum from the previous is set.	

Error Type	F21 [Next Original not set on AF for Multi-Up]
LED Display Error position	No indication
To reset display	Set original on the AF. Or press the <STOP> key (time-out exists for pressing the <STOP> key).
Error Point	Error Conditions
032	Next original is not set on AF when multi-up is selected.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
	Error Type	F22 [Next Original not placed on FB for Multi-Up]	
	LED Display Error position	No indication	
	To reset display	Set original on the FB and press the <START> key. Or press the <STOP> key (Time-out exists for pressing the <STOP> key)	
	Error Point	Error Conditions	
	033	Next Original not placed on FB for Multi-Up scanning.	

Error Type	F24 [Auto Reproduction Size Selection Not Possible]
LCD Display Description	F24-xxx !! No Auto Reproduction Size Selection with This Combination of Original and Printing Paper !! Select Size manually
To reset display	When changing the [Size] setting; Touch [Size Setting]. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
037	The reproduction ratio does not match when the job start under Auto Reproduction Size selection.

Error Type	F31 [Auto Control Paper Receiving Tray - Paper Guide Fence Error]
Description	F31-xxx Check Paper Receiving Tray
To reset display	Press the <START> key or the <STOP> key.
Error Point	Error Conditions
836	HP sensor did not go ON when the side fences made initial home position movement.
837	HP sensor did not go OFF when the side fences should have left home position.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
838	HP sensor did not go ON when the end fence made initial home position movement.		
839	HP sensor did not go OFF when the end fence should have left home position.		
868	Even though the End fence pulse motor ended its movement by the sensor detection, the sensor status does not match with the programmed status.		
869	Even though the Side fence pulse motor ended its movement by the sensor detection, the sensor status does not match with the programmed status.		
870	The End fence pulse motor does not stop either by its pulse count stop nor by sensor detected stop.		
871	The Side fence pulse motor does not stop either by its pulse count stop nor by sensor detected stop.		

Error Type	F32 [Storage Data - Storage Area Full]
LCD Display	F32-xxx
Description	!! The Data Storage Area has Become Full !! Clear Old Storage Data
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
713	The Storage memory card became full while saving data.

Error Type	F33 [USB Memory - Memory Area Full]
LCD Display	F33-xxx
Description	The file size is too large to store on USB Flash Drive Change the USB Flash Drive or delete some files to make spaces
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
913	The USB memory became full while saving data.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F37 [Book mode: AF cannot be used]	Error Type	F37 [Book mode: AF cannot be used]
LCD Display Description	F37-xxx !! Book Shadow Editor is Not Available with AF !! Place Original on Glass Platen	LED Display Error position	LED 8 (Image scanning area)
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
050	Original was set on the AF with book mode selected in master making.	050	Original was set on the AF with book mode selected in master making.

Error Type	F43 [Data printing / Paper size mismatch]
LCD Display Description	F43-xxx !! Unmatched Size -- Current Page and Printing Paper !! Check Paper Size
To reset display	When resuming the print job; Touch [Continue], or press the <START> key. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
902	Original size is larger than the paper size when the print data received from the PC.

Error Type	F44 [Auto Reproduction Size - Error Between Original Size and Paper Size]
LCD Display Description	F44-xxx !! No Auto Reproduction with This Original and Printing Paper !! Select Size Manually
To reset display	When changing the "Size" setting; Touch [Size Setting]. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
901	Original size could not be detected (original size out of the specification).

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F45 [Original Undetected]		
LCD Display	F45-xxx		
Description	Original Undetected Reset Original		
To reset display	Re-position the original to clear the Pop-Up message. When resuming the print job; Touch [Continue], or press the <START> key. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
954	Auto-tray or Auto-reproduction size is selected, and master making or print to linked printer is started with original undetected		
959	Master making or print to a linked printer is started with original undetected.		
981	The original not detected when [NEXT] button was pressed in Multi-Up Wizard display.		

Error Type	F47 [AF - card size reproduction not available]
LCD Display	F47-xxx
Description	[A4->Card] Reproduction is Not Available in combination with AF Place Original on Stage Glass
To reset display	Remove original from AF and set it on the stage glass.
Error Point	Error Conditions
904	Reproduction size from A4 size reduced to card size is selected and the original is placed on the AF unit.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
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Error Type	F48 [Multi-Up - Wrong Original Size]		
LCD Display Description	F48-xxx Original Size Exceeds Limitation of Multi-Up Specify Original Size		
To reset display	When changing the "Original Size" setting; Touch [Original Size]. When resuming the print job; Touch [Continue], or press the <START> key. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
955	During the multi-up operation, the original size was detected as customs size or out of specification.		

Error Type	F49 [Multi-Up - No Original]		
LCD Display Description	F49-xxx Original Undetected Reset Original		
To reset display	Re-position the original to clear the Pop-Up message. When resuming the print job; Touch [Continue], or press the <START> key. When stopping the print job; Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
989	The original was undetected when Multi-Up operation was selected for either one original or multi-original.		

Error Type	F52 [Printing from Linked Printer disabled - Printer data not received]		
LCD Display Description	F52-xxx Acquiring Linked Printer Configuration Data Please Wait a Moment		
To reset display	Touch [Close].		
Error Point	Error Conditions		
912	Printing from linked printer disabled (Linked printer data not received).		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F58 [Printing from Linked Printer Disabled - Initializing NET-D]	Error Type	F58 [Printing from Linked Printer Disabled - Initializing NET-C]
LCD Display Description	F58-xxx Starting Up RISORINC-NET Please Wait a Moment	LED Display Error position	No Indication
To reset display	Touch [Close].	To reset display	Press the <RESET> key.
Error Point	Error Conditions	Error Point	Error Conditions
927	Printing from Linked Printer disabled (NET-D being initialized).	927	Printing from Linked Printer disabled (NET-C being initialized).

Error Type	F60 [Printer-Auto-Selection disabled: Print quantity selected is 0]
LCD Display Description	F60-xxx !! Number of Copies is set to [0] !! Printing Operation will Start on this Printer
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
929	Auto-printer-selection is disabled with print quantity selected as Zero.

Error Type	F61 [Linked Printer - Wrong Paper Size]
LCD Display Description	F61-xxx Proper Size Paper is Not Set on Linked Printer Set Proper Paper
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
930	Original size does not match with the paper size set on the linked printer.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F62 [Printer-Auto-Selection disabled - Linked printer error]		
LCD Display	F62-xxx		
Description	!! Auto-Link Operation is Not Available !! Specified Linked Printer may be in Error or Turned OFF		
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
956	Auto-printer-selection is disabled due to linked printer error.		

Error Type	F63 [Linked Printer - Auto Tray Selection not available for Irregular Size Original]		
LCD Display	F63-xxx		
Description	!! No Auto Paper Size Selection with Irregular Size Original !! Select Paper Size and then Restart		
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
971	Auto-Tray-Selection was used in printing from the linked printer using irregular sized original.		

Error Type	F64 [Selected Function Not Available While Processing Print Data from PC]		
LCD Display	F64-xxx		
Description	Processing Print Data from PC This Function is Not Available while Processing Current Data		
To reset display	Touch [Close].		
Error Point	Error Conditions		
964	Scanning, Overlay, Digitizer or Hold function was selected while the printer is receiving data from PC.		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F65 [Scan Mode - Auto Page Size Selection Not Available for Irregular Size Original]		
LCD Display Description	F65-xxx Auto Page Size Selection is Not Available for Irregular-Size Original Select Format Size to Store and then Restart		
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
965	The auto-size (save data) selection at start of scanning is detected as original irregular in size.		

Error Type	F66 [Linked printer saddle stitching is disabled]		
LCD Display Description	F66-xxx Saddle Stitching is Not Available with This Paper Size		
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
962	Specified tray does not have any A3 (Ledger), B4 (Legal), A4 (Letter) or A4L (Letter-L) when printing from linked printer with saddle stitching selected.		

Error Type	F67 [Linked printer saddle stitching is disabled]		
LCD Display Description	F67-xxx !! Improper Paper for Rotation Sorting !! Set Same Sized Paper in 2 Trays, One in Horizontal and Other in Vertical Direction		
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
963	Specified size papers are not set in horizontal and vertical directions in the linked printer tray, when printing from linked printer with rotation sorting selected.		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F73 [Linked Printer - Auto Tray Selection Not Available with Selected Reproduction Ratio]		
LCD Display	F73-xxx		
Description	Paper Size cannot be Defined by Specified Reproduction Size Select Paper Tray and Press Start Key		
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
975	In Linked Printer printing, the detected original size does not match with the selected reproduction size.		

Error Type	F78 [Editor - Stage Cover is Opened]	
LCD Display	F78-xxx	
Description	Close Stage Cover If original moves you may not get desired result	
To reset display	Close the Stage cover and touch [Close].	
Error Point	Error Conditions	
731	The stage cover is opened during the digitizer operation.	

EZ5/EV5
EZ2/EV2 & EZ3/EV3

Error Type	F79 [Editor - No Original During Re-Scanning]
LCD Display	F79-xxx
Description	Set Original and Press Start key Re-scanning will be Started to Add Image Processing
To reset display	Touch [Cancel].
Error Point	Error Conditions
732	The original was not detected during re-scanning.

Error Type	F85 [External CI - Scanning Not Possible with External CI not Connected]
LCD Display	F85-xxx
Description	!! Scanning is Not Possible !! External CI is not Connected or Processing Connection Check Cable Connection
To reset display	When resuming the scanning; Press the <START> key. When stopping the scanning; Touch [Close].
Error Point	Error Conditions
995	Either the PS7R is not connected or improperly connect.
997	Failed to delete the job on the PS7R.
998	Receiving the scanning data by the PS7R.

Error Type	F86 [Auto Tray Selection - Tray Cannot Be Selected with Selected Reproduction Ratio]
LCD Display	F86-xxx
Description	Paper Size cannot be Defined by Specified Reproduction Size Select Paper Tray and Press Start Key
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.
Error Point	Error Conditions
864	With the Auto Tray selected, the master-making was activated with original size which does not match with the reproduction ratio against the printing paper.

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F87 [Auto Tray Selection - Multi-Up Not Possible]		
LCD Display	F87-xxx		
Description	Select Paper Tray		
To reset display	Touch [Cancel].		
Error Point	Error Conditions		
865	Multi-Up was chosen with Auto Tray selected.		

Error Type	F88 [Auto Tray Selection - 2 UP Selection Error]		
LCD Display	F88-xxx		
Description	Select Paper Tray and Press Start Key		
To reset display	Touch [Cancel], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
866	With Auto Tray selected, the 2-UP was selected with printing papers other than A4R or B5R.		

Error Type	F89 [Interposer Mode - Wrong Paper Size]		
LCD Display	F89-xxx		
Description	!! Unmatched Paper Size !! Interposal Paper is Smaller than Printing Paper Check Interposal Paper Size		
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
867	Interposer mode was selected with interposal paper smaller than the printing paper.		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F90 [Ink Supply Stock Inventory]		
LCD Display Description	F90-xxx Check Stock of Required Ink and Please Order If Needed		
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
957	Set quantity of the specified color ink stock quantity is equal to or less than the calculated stock quantity.		

Error Type	F91 [Master Roll Supply Stock Inventory]		
LCD Display Description	F91-xxx Check Stock of Required Master and Please Order If Needed		
To reset display	Touch [Close], or press the <STOP> key or the <RESET> key.		
Error Point	Error Conditions		
958	Set quantity of the specified master roll stock quantity is equal to or less than the calculated stock quantity.		

Error Type	F93 [Reproduction Size - Larger than the Master Making Size]		
LCD Display Description	F93-xxx Check the Settings The Selected Reproduction Ratio will not fit the Max. Printing Area		
To reset display	When resuming the print job; Touch [Continue], or press the <START> key. When stopping the print job; Touch [Cancel], or press the <STOP> key.		
Error Point	Error Conditions		
936	Either of the following two causes the reproduction ratio to exceed the printing area. 1) Auto Tray is selected with reproduction ratio neither at 100% nor at AUTO. 2) Paper tray is manually selected and the reproduction ratio is at AUTO.		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	F94 [Protect Mode - Discard Current Master]		
LCD Display	F94-xxx		
Description	PROTECT Discard Current Master		
To reset display	Press the <START> key.		
Error Point	Error Conditions		
007	The protect function is active when machine power is turn ON, machine woke up from sleep, or print drum is inserted into the machine.		

Error Type	F95 [Protect Mode - Confirmation]		
LCD Display	F95-xxx		
Description	PROTECT Discard Current Master		
To reset display	Press the <START> key or press the <STOP> key.		
Error Point	Error Conditions		
008	The job completes when the protect mode is selected active by the Admin. display.		

Error Type	F96 [Total Count Volume]		
LCD Display	F96-xxx		
Description	Day to Count the Total Used Volume Contact the Administrator		
To reset display	Press <CLOSE> button, <STOP> key or <RESET> key.		
Error Point	Error Conditions		
918	The set date to count the used volume.		

Error Type	F97 [Count Charge]		
LCD Display	F97-xxx		
Description	Day to Calculate the Count Charge Contact the Administrator		
To reset display	Press <CLOSE> button, <STOP> key or <RESET> key.		
Error Point	Error Conditions		
928	The set date to add the count charge.		

Parameter Value input (H**)

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
Error Type	H01 [Ink color setting]	Error Type	H01 [Ink color setting]
LCD Display	Select the same color as the Print Drum	LED Display	No Indication
Description	currently in use.	Error position	
To reset display	Enter the required parameter value (1: Black 2: Color) [INK]	To reset display	Enter the required parameter value (1: Black 2: Color) [INK]
Error Point	Error Conditions	Error Point	Error Conditions
566	Enter the required parameter value.	566	Enter the required parameter value.

Error Type	H02 [Print density fine adjustment]	Error Type	H02 [Print density fine adjustment]
LCD Display	Select a Print Density level to match the	LED Display	No Indication
Error position	ink to fine-tune print result.	Error position	
To reset display	Enter the required parameter value (1: Light to 5: Dark) [INK]	To reset display	Enter the required parameter value (1: Light to 5: Dark) [INK]
Error Point	Error Conditions	Error Point	Error Conditions
567	Enter the required parameter value.	567	Enter the required parameter value.

Error Type	H03 [Proof print density adjustment]	Error Type	H03 [Proof print density adjustment]
LCD Display	Select a Print Density level of the first	LED Display	No Indication
Error position	print to match the ink.	Error position	
To reset display	Enter the required parameter value (1: Light to 5: Dark) [INK]	To reset display	Enter the required parameter value (1: Light to 5: Dark) [INK]
Error Point	Error Conditions	Error Point	Error Conditions
568	Enter the required parameter value.	568	Enter the required parameter value.

Error Type	H04 [Master Density]	Error Type	H04 [Master Density]
LCD Display	Select the standard density to be applied	LED Display	No Indication
Description	during creation of the master.	Error position	
To reset display	Enter the required parameter value (1: Light to 10: Dark) [MASTER]	To reset display	Enter the required parameter value (1: Light to 10: Dark) [MASTER]
Error Point	Error Conditions	Error Point	Error Conditions
242	Enter the required parameter value.	242	Enter the required parameter value.

Error Type	H05 [Print density fine adjustment]	Error Type	H05 [Print density fine adjustment]
LCD Display	Select a Print Density level to match the	LED Display	No Indication
Error position	master to fine-tune print result.	Error position	
To reset display	Enter the required parameter value (1: Light to 5: Dark) [MASTER]	To reset display	Enter the required parameter value (1: Light to 5: Dark) [MASTER]
Error Point	Error Conditions	Error Point	Error Conditions
243	Enter the required parameter value.	243	Enter the required parameter value.

Error Type	H06 [Proof print density adjustment]	Error Type	H06 [Proof print density adjustment]
LCD Display	Select a Print Density level of the first	LED Display	No Indication
Error position	print to match the master.	Error position	
To reset display	Enter the required parameter value (1: Light to 5: Dark) [MASTER]	To reset display	Enter the required parameter value (1: Light to 5: Dark) [MASTER]
Error Point	Error Conditions	Error Point	Error Conditions
244	Enter the required parameter value.	244	Enter the required parameter value.

Errors Requiring Special Attention

The errors listed below are not cleared even when the machine power is switched OFF and ON. The problem must be corrected in order to clear the error message.

Error Type	Error Description
C01	Replace ink cartridge
C02	Replace master roll
C03	Master disposal box full

The errors listed below activates RECOVERY action on the machine the next time the machine power is turned ON if the machine was previously turned OFF with the given error message.

The machine may indicate a different but a related error message when the machine power is turned ON.

Error Type	Error Description
T13	Cutter motor lock
A02	Master loading error
A04	Master removal error
A08	Paper jam on print drum
A16	Waiting for the master to be removed from the drum
A17	Cutter error

CHAPTER 18: TEST MODE

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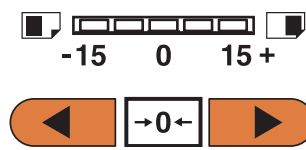
1. Test Mode Procedures

EZ2/EV2 & EZ3/EV3 Series

1) Start-up Procedure

Switch ON the machine power while simultaneously pressing the two print position keys on the operation panel. This initiates the test mode in standby mode.

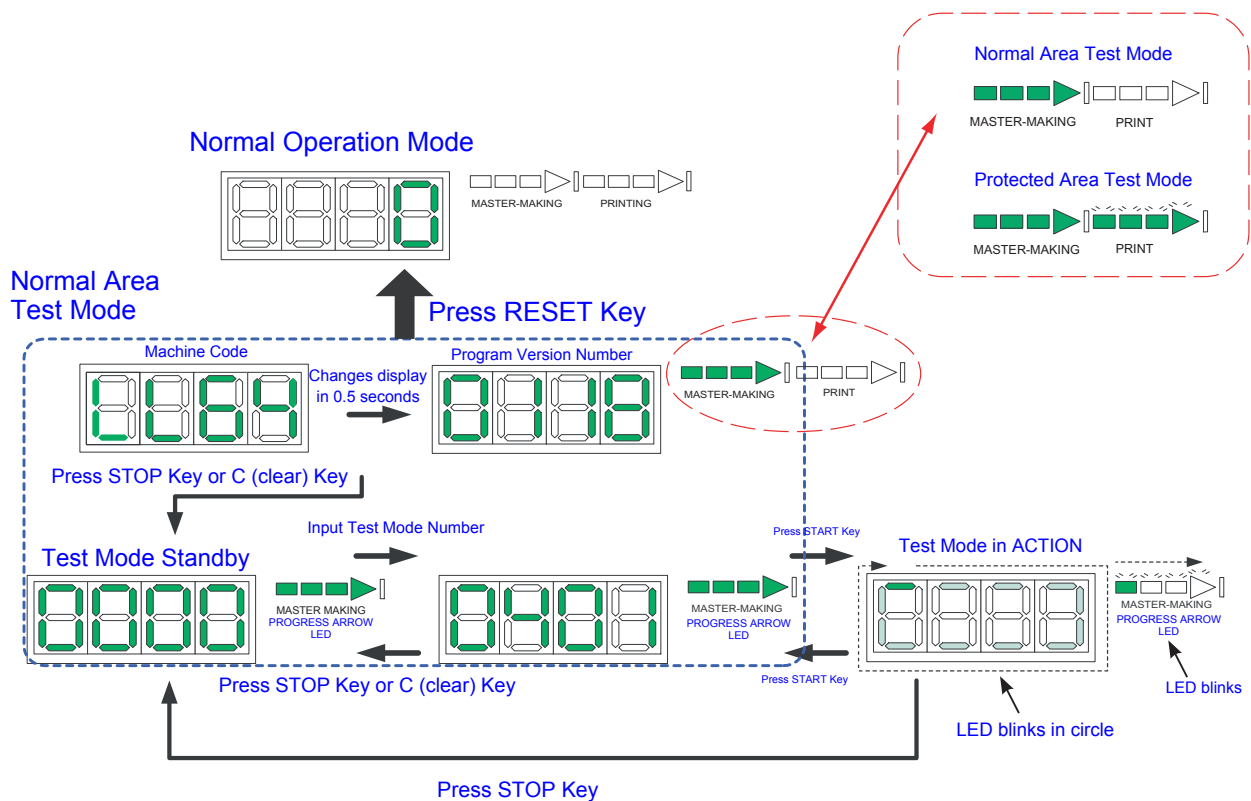
PRINT POSITION



Press the two print position keys simultaneously and turn ON the machine power.

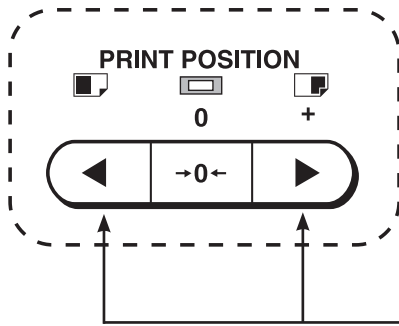
2) Activation & Exit

Follow the procedure explained on the illustration below for the activation of the test mode and ending the test mode.



EZ5/EV5 Series**1) Start-up Procedure**

Switch ON the machine power while simultaneously pressing the two print position keys on the operation panel. This initiates the test mode in standby mode.



Press the two print position keys simultaneously and turn ON the machine power.

2) Operating Procedure

Test mode numbers can be entered (selected) via [Key entry] or [Menu selection].

a) Key entry procedure

- (1) In standby mode, enter the number of the test mode to be run using the numeric keys. If you make a mistake during entry, you can perform entry once again by pressing the [C] key.
- (2) Press the [START] key to initiate Test mode operations.
- (3) Press the [STOP] or [START] key to end Test mode and return to standby or operation standby modes.

* In data setting mode, after setting the new data, press the [START] key to confirm the modified data and return to standby mode. Instead, if the [STOP] key is pressed, the newly input data is cancelled and the existing data setting remains.

b) Menu selection method

- (1) While in standby mode, select the unit containing the test item to be run from the Test mode menu.
 - Press the unit name on the LCD screen. (Unit name is highlighted.)
 - The Test mode sub-menu appears.
- (2) Select the test item to be run from the Test mode sub-menu.
 - Press the test item on the LCD screen. (Test item is highlighted.)
- (3) Press the [START] key to initiate Test mode operations.
- (4) Press the [STOP] or [START] key to end the Test mode operation and return to standby mode or operation standby mode.

* After setting data, press the [START] key to confirm the modified data and return to standby mode. Press the [STOP] key to cancel the settings before returning to standby mode.

3) Ending Procedure

To exit the Test mode, press the [RESET] key for at least 1 second during test mode standby mode or test mode operation standby mode.

2. Individual Test Procedures

1) Checking sensors and switches

Indicates the sensor and switch status with audible beeps.

Detected: Buzzer sounds at 0.1 second intervals (short beeps).

Not detected: Buzzer sounds at 0.5 second intervals (long beeps).

2) Checking motors and solenoids

Switch on by pressing the [Start] key, then press the [START] or [STOP] key to switch off.

* Error checking is not performed during the operation. Note that moving parts may lock if at their limit positions.

3) Checking unit operations

- (1) Switch on by pressing the [Start] key, then initiate unit operation. Error checking is performed in basically the same way as for normal operation. Some operations will halt when the sequence is complete, while other operations will continue until you press a key ([STOP] or [START]).
- (2) A continuous audible tone is emitted to indicate an error. To cancel errors, press the [RESET] key.

4) Data clear

Press the [Start] key to clear the data. [In Action] message appears while clearing the data. The activating ends automatically and [End] message appears when completed.

5) Data check

Press the [Start] key to display data.

* Data check only displays the various settings. These settings cannot be changed here.

6) Data setting

- (1) Press the [Start] key to display and change the data currently set.
 - (2) Change data using the numeric keys. Use the [*] key to change the display.
 - (3) Once settings have been changed, press the [START] key to confirm the data and return to standby mode. Press the [STOP] key to cancel the settings and return to standby mode.
- * The settings will be set to their default values if values beyond the specified setting ranges are entered. The settings are also set to their default values if values are entered in units other than the units specified.

3. System & Control Panel Test Mode

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No	Sensor & Switch Check				
0001	Wakeup Key		Wakeup Key		
		ON: Key pressed		ON: Key pressed	
0002	Solenoid counter connection signal		Solenoid counter connection signal		
		ON: Solenoid counter connected		ON: Solenoid counter connected	
0003	24V A output signal		24V A output signal		
		ON: 24V-A (24 volts) is output		ON: 24V-A (24 volts) is output	
0004	24V B output signal		24V B output signal		
		ON: 24V-B (24 volts) is output		ON: 24V-B (24 volts) is output	
0005	Rear cover safety switch		Rear cover safety switch		
		ON: Rear cover is attached		ON: Rear cover is attached	
No.	Motor & Solenoid				
0062	Wake-up LED		Wake-up LED		
		LED Illuminates		LED Illuminates	
No.	Unit Check				
0080	Test Print A (checkered)		Test Print A (checkered)		
		Creates Test pattern 1 (Checker Flag)		Creates Test pattern 1 (Checker Flag)	
0081	Test Print B (cross stripes)		Test Print B (cross stripes)		
		Creates Test pattern 2 (Cross Lines)		Creates Test pattern 2 (Cross Lines)	
0082	Test Print C (Dot1)		Test Print C (Dot1)		
		Creates Test pattern 4 (Dot 1)		Creates Test pattern 4 (Dot 1)	
0083	Test Print D (Dot2)		Test Print D (Dot2)		
		Creates Test pattern 5 (Dot 2)		Creates Test pattern 5 (Dot 2)	
0084	Test Print E (Dot1 + Cross Lines)		Test Print E (Dot1 + Cross Lines)		
		Creates Test pattern 6 (Dot 1 + Cross Lines)		Creates Test pattern 6 (Dot 1 + Cross Lines)	
0085	Test Print F (Dot2 + cross stripes)		Test Print F (Dot2 + cross stripes)		
		Creates Test pattern 7 (Dot 2 + Cross Lines)		Creates Test pattern 7 (Dot 2 + Cross Lines)	
0086	Test Print G (Dot3)		Test Print G (Dot3)		
		Creates Test pattern 8 (Dot 3)		Creates Test pattern 8 (Dot 3)	
0087	Paper-Feed Test (continuous feeding)		Paper-Feed Test (continuous feeding)		
		Speed 1 = 60rpm Speed 2 = 80rpm Speed 3 = 100rpm Speed 4 = 120rpm Speed 5 = 130rpm		Speed 1 = 60rpm Speed 2 = 80rpm Speed 3 = 100rpm Speed 4 = 120rpm Speed 5 = 130rpm	
0088	Low-Speed Printing Operation		Low-Speed Printing Operation		
		Prints continuously at 15 rpm.		Prints continuously at 15 rpm.	
0089			Stepped Printing Operation		
				Press START key to switch on the suction fan. Prints at 15 rpm only while TEST PRINT key is pressed. Printing stops when TEST PRINT key is released, and resumes if the key is pressed again. Press STOP to switch suction fan off.	
0090	Firmware download		Firmware download		
		Firmware is downloaded when START key is pressed.		Firmware is downloaded when START key is pressed.	
0094	Unit Initialization		Unit Initialization		
		Mechanical initialization is made. (Scanner, TPH, Compression plate,Clamp unit, Vertical print position, Printing pressure)		Mechanical initialization is made. (Scanner, TPH, Compression plate,Clamp unit, Vertical print position, Printing pressure)	
0095	System Configuration Data Output		System Configuration Data Output		
		Creates a master for the CI system data.		Creates a master for the CI system data.	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0097	Data-Setting & Error-History Output		
	Creates a master for the list of data-setting changes and the error history.		
0101	Machine Clock Activation	Machine Clock Activation	
	Activates time set by Test Modes from No.0171 through 0173. The new clock time set by test mode No. 0171 through No.0173 will not be applied unless this test mode No. 0101 is activated.	Activates time set by Test Modes from No.0171 through 0173. The new clock time set by test mode No. 0171 through No.0173 will not be applied unless this test mode No. 0101 is activated.	
0103	Machine Test Mode Data Recording	Machine Test Mode Data Recording	
	Stores the machine Test Mode settings into CF card.	Stores the machine Test Mode settings into CF card.	
0104	Print drum Test Mode Data Recording	Print drum Test Mode Data Recording	
	Stores the Print drum Test Mode settings in the EEPROM of the Print Drum PCB into CF card.	Stores the Print drum Test Mode settings in the EEPROM of the Print Drum PCB into CF card.	
0105	Machine Test Mode Data Re-store	Machine Test Mode Data Re-store	
	Writes the test mode settings retrieved in CF card by test mode No.0103 into the NeoROSA PCB.	Writes the test mode settings retrieved in CF card by test mode No.0103 into the EEPROM of Mechanical Control PCB..	
0106	Print Drum Test-Mode Data Re-store	Print Drum Test-Mode Data Re-store	
	Writes the test mode settings retrieved in CF card by test mode No.0104 into the Print Drum PCB EEPROM.	Writes the test mode settings retrieved in CF card by test mode No.0104 into the Print Drum PCB EEPROM.	
0107	Test Mode Data Back-up	Test Mode Data Back-up	
	Stores all the test mode numbers and settings, which are changed from the program default, are stored in CF card for record keeping purpose.	Stores all the test mode numbers and settings, which are changed from the program default, are stored in CF card for record keeping purpose.	
No.	Data Clear		
0110	Clearing Jam Status Data	Clearing Jam Status Data	
	This test mode can also be used to clear error data for items for which jam can otherwise be cleared only by the jam release procedure. Consumable errors cannot be cleared.	This test mode can also be used to clear error data for items for which jam can otherwise be cleared only by the jam release procedure. Consumable errors cannot be cleared.	
0111	Clearing User Memory	Clearing User Memory	
	Initializes data in user area memory to the programming defaults.	Initializes data in user area memory to the programming defaults.	
0112	Clearing Normal Area Test-Mode Data Memory [MACHINE]	Clearing Normal Area Test-Mode Data Memory [MACHINE]	
	Initializes all normal area test mode settings on the machine to their programming default values. The protected area test modes stay unchanged.	Initializes all normal area test mode settings on the machine to their programming default values. The protected area test modes stay unchanged.	
0113	Maintenance Count Clear (master making)	Maintenance Count Clear (master making)	
	Clears the master making maintenance call message by resetting the count to zero.	Clears the master making maintenance call message by resetting the count to zero.	
0114	Maintenance Count Clear (printing)	Maintenance Count Clear (printing)	
	Clears the printing maintenance call message by resetting the count to zero.	Clears the printing maintenance call message by resetting the count to zero.	
0115	Maintenance Count Clear (print drum)	Maintenance Count Clear (print drum)	
	Clears the print drum maintenance call message by resetting the count to zero.	Clears the print drum maintenance call message by resetting the count to zero.	
0116	Set-up Wizard Initialize		
	Initializes the set-up wizard to the out-of-the-factory condition.		

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
0117	Clearing Normal Area Test-Mode Data Memory [PRINT DRUM]		Clearing Normal Area Test-Mode Data Memory [PRINT DRUM]		
		Initializes all normal area test mode settings within the EEPROM of the print drum to their programming default values. The protected area test modes stay unchanged.		Initializes all normal area test mode settings within the EEPROM of the print drum to their programming default values. The protected area test modes stay unchanged.	
No.	Data Check				
0120	System Parameter Adjustment Record				
		Displays the test mode numbers and settings for all the test modes changed from the program default settings. (Does not list those in the protected test mode.)			
0121	Switch Action Record				
		Displays error codes for set-switch errors which caused the machine to stop. (Most recent 8 items)			
0122	Error Record				
		Lists error code history of the error types T, A and B which occurred on the machine. (Most recent 64 items)			
0123	Maintenance Count				
		Displays all the maintenance counter values (master making, printing, and print-drum).			
0124			Machine serial number display (1)		
				Displays the first 4 digits of the machine serial number.	
0125			Machine serial number display (2)		
				Displays the last 4 digits of the machine serial number.	
0126	Optional Configuration Check				
		Displays optional peripherals/devices currently connected.			
0127			AF connection status		
				Displays whether AF unit is connected. 0 : Not connected 1 : Connected (displays program version if ROM is set. Example: Displays 0101 for Ver.1.01	
0128			Job Separator connection status		
				Displays whether there is any Job Separator connection. 0 : Not connected 1 : Connected	
0129			NIC connection status		
				Displays whether there is any NIC (Network Card) connection. 0 : Not connected 1 : Connected	

EZ5/EV5			EZ2/EV2 & EZ3/EV3	
0130			MCTL PCB program version display	
				Displays Mechanical control PCB program version. Example: Displays 0101 for Ver.1.01
0131			ROSA PCB program version display	
				Displays NeoROSA program version. Example: Displays 0101 for Ver.1.01
0132	Download File Information			
		Displays the following: File name, Firmware type (MECHA, ROSA, DSP), Machine type, Firmware version number, File date, Media type (U=USB, C=CF card)		
0135	Paper Size ID display		Paper Size ID display	
		Displays paper ID decided according to paper size VR and paper size detection sensor. <Which ID to display depends on the machine model> 00 No paper 01 A3 02 B4 03 A4 04 A4 landscape 05 B5 06 B5 landscape 07 A5 08 A5 landscape 09 B6 10 B6 landscape 11 Post card 12 Post card landscape 13 Ledger 14 Legal 15 Letter 16 Letter landscape 17 Statement 18 Statement landscape 19 Foolscap 30 Chinese Paper No. K16 31 Chinese Paper No. K16 landscape 32 Chinese Paper No. K8 50 Paper size undefined 1 (paper size det. sensor : ON) 51 Paper size undefined 2 (paper size det. sensor : OFF)		Displays paper ID decided according to paper size VR and paper size detection sensor. <Which ID to display depends on the machine model> 00 No paper 01 A3 02 B4 03 A4 04 A4 landscape 05 B5 06 B5 landscape 07 A5 08 A5 landscape 09 B6 10 B6 landscape 11 Post card 12 Post card landscape 13 Ledger 14 Legal 15 Letter 16 Letter landscape 17 Statement 18 Statement landscape 19 Foolscap 30 Chinese Paper No. K16 31 Chinese Paper No. K16 landscape 32 Chinese Paper No. K8 50 Paper size undefined 1 (paper size det. sensor : ON) 51 Paper size undefined 2 (paper size det. sensor : OFF)
0137			Maintenance counter reading (Master Making)	
				Display of 1 = 100 master makings Example: 1234 display = 123,400 master makings.
0138			Maintenance counter reading (Printing)	
				Display of 1 = 1000 printings. Example: 1234 display = 1,234,000 prints.

EZ5/EV5			EZ2/EV2 & EZ3/EV3	
0139			Maintenance counter reading (Print Drum)	
				Display of 1 = 1000 printings. Example: 1234 display = 1,234,000 prints.
No.	Data Setting			
0140			Scanning & Master Making Independent Mode	
				Selection to make the scanning & master making action together with the master removal action or to make the two actions separately.
			Setting: 0 : Together <default> 1 : Independent	
0142	Test Mode Display Language Selection			
		Display language selection.		
		Setting: 0 : Normal 1 : Japanese 2 : English 3 : Chinese		
0143	Maintenance: Master Count Entry		Maintenance: Master Count Entry	
		Sets the number of master making at which the maintenance-call message is displayed.		Sets the number of master making at which the maintenance-call message is displayed.
		Range : 0 to 999,900 master making Unit : 1 = 100 master making Default : 0 : No maintenance call display		Range : 0 to 999,900 master making Unit : 1 = 100 master making Default : 0 : No maintenance call display
0144	Maintenance: Copy Count Entry		Maintenance: Copy Count Entry	
		Sets the number of prints at which the maintenance-call message is displayed.		Sets the number of prints at which the maintenance-call message is displayed.
		Range : 0 to 9,999,000 printing Unit : 1 = 1000 printing Default : 0 : No display maintenance call display		Range : 0 to 9,999,000 printing Unit : 1 = 1000 printing Default : 0 : No display maintenance call display
0145	Maintenance: Drum Meter Entry		Maintenance: Drum Meter Entry	
		Sets the number of print-drum prints at which the maintenance-call message is displayed (for each print drum).		Sets the number of print-drum prints at which the maintenance-call message is displayed (for each print drum).
		Range : 0 to 9,999,000 printing Unit : 1 = 1000 printing Default : 0 : No display maintenance call display		Range : 0 to 9,999,000 printing Unit : 1 = 1000 printing Default : 0 : No display maintenance call display
0146	Scanning Priority in Master Making			
		To prevent machine movement vibration from affecting the scanning quality, the master removal and master making action takes after the scanning, if selected to ON.		
		Setting: 0 : OFF <default> 1 : ON		
0150	Print Quantity Display Recovery			
		Selection of print quantity display after print job is finished. Displays either [0] or [previous print quantity].		
		Setting: 0 : Displays 0 <default> 1 : Displays previous print quantity		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0151	Print Speed After Short Interval	Print Speed After Short Interval	
	Gradual print speed acceleration after short intervals between printing job.	Gradual print speed acceleration after short intervals between printing job.	
0152	Setting: 0 : Disabled <default> 1 : Enabled	Setting: 0 : Disabled 1 : Enabled <default>	
	Light Print Display Control	Light Print Display Control	
0153	Selects whether to display the [Light Print] button in the Functions Tab.	Selects whether to display the [Light Print] button in the Functions Tab.	
	Setting: 0 : Disabled <default> 1 : Enabled	Setting: 0 : Disabled <default> 1 : Enabled	
0154	Special Paper Control Basic Display Control		
	Selects whether to display the Special Paper Control button in the Admin. Tab.		
0155	Setting: 0 : Disabled <default> 1 : Enabled		
	Minimum Print Quantity Control	Minimum Print Quantity Control	
0156	Enables/Disables making input changes by the User Mode.	Enables/Disables making input changes by the User Mode.	
	Setting: 0 : Disabled 1 : Enabled <default>	Setting: 0 : Disabled 1 : Enabled <default>	
0157	Counter Action Control	Counter Action Control	
	Enables/Disables copy counter & master counter (solenoid counter, software counter). This setting returns to default once the power is switched OFF.	Enables/Disables copy counter & master counter (solenoid counter, software counter). This setting returns to default once the power is switched OFF.	
0158	Setting: 0 : Counter Disabled 1 : Counter Enabled <default>	Setting: 0 : Counter Disabled 1 : Counter Enabled <default>	
0159	Warning Errors Display		
	Selection to display or not to display the warning errors F02, F10 and F43.		
0160	Setting: 0 : No display 1 : Displays <default>		
	Auto Multi-Up Recovery		
0161	Selects if the Multi-up stays active or becomes inactive after one Multi-up operation.		
	Setting: 0 : Change to inactive <default> 1 : Stays active		
0162	Program Print Auto-Repeat Setting	Program Print Auto-Repeat Setting	
	Selection to keep the program printing active or to change to inactive after one master-making with Auto-Print OFF.	Selection to keep the program printing active or to change to inactive after one master-making with Auto-Print OFF.	
0163	Setting: 0 : Changes to inactive <default> 1 : Stays active	Setting: 0 : Changes to inactive <default> 1 : Stays active	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0162	Master Making Stand-by Cancel Time Setting	Master Making Stand-by Cancel Time Setting	
	When Master making mode is selected, the master making stand-by condition is cancelled according to the time set. If the set time is within 60s, the master making stand-by condition (TPH pressure, Clamp opening position, Scanner lamp ON) is cancelled in 60s. If set to over 60s, the Scanner lamp ON is cancelled after 60s, and other stand-by condition is cancelled after the set time.	When Master making mode is selected, the master making stand-by condition is cancelled according to the time set. If the set time is within 60s, the master making stand-by condition (TPH pressure, Clamp opening position, Scanner lamp ON) is cancelled in 60s. If set to over 60s, the Scanner lamp ON is cancelled after 60s, and other stand-by condition is cancelled after the set time.	
0165	Range : 0 to 180s (0 = No stand-by) Unit : 1 = 1s (1 second) Default: 180 (180s)	Range : 0 to 180s (0 = No stand-by) Unit : 1 = 1s (1 second) Default: 180 (180s)	
	RLP Mode display change timing selection		
0166	Timing adjustment for the display to change when using RLP auto-selection mode.		
	Range : -5 to +5 (0 to 2.5s) Unit : 1 = 0.25s (0.25 seconds) Default: 0 (1.25 seconds)		
0167	Maximum Print Quantity Control		
	Enable or disable the maximum print quantity setting, and also sets the maximum print quantity. Range : 0 (disabled) to 9999 (enabled) Unit : 1 = 1 print Default: 0 (disabled)		
0169	Paper ID Auto-Repeat Control		
	Selects if the paper data stays active or become inactive after power is turned OFF or RESET button is pressed. Setting: 0 : Stays active <default> 1 : Changes to inactive		
0170	Admin. Display Control		
	Selects if the Admin. Tab is displayed or not. Setting: 0 : Hide 1 : Display <default>		
0171	Consumable Storage Indication		
	Selects whether the consumable storage indication is displayed on the Admin. window. Setting: 0 : Hide <default> 1 : Display		
0171	Machine Clock Setting (YEAR)	Machine Clock Setting (YEAR)	
	Sets YEAR in clock. Test Mode No. 0101 must be activated after inputting test modes No. 0171 through No. 0173 to activate the new setting.	Sets YEAR in clock. Test Mode No. 0101 must be activated after inputting test modes No. 0171 through No. 0173 to activate the new setting.	
0171	Range : 2000 to 2199 (Year 2000 to 2199) Unit: 1 = 1 year Default: 2000 (Year 2000)	Range : 2000 to 2199 (Year 2000 to 2199) Unit: 1 = 1 year Default: 2000 (Year 2000)	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0172	Machine Clock Setting (MONTH & DATE)	Machine Clock Setting (MONTH & DATE)	
	Sets MONTH/DATE in clock. Test Mode No. 0101 must be activated after inputting test modes No. 0171 through No. 0173 to activate the new setting.	Sets MONTH/DATE in clock. Test Mode No. 0101 must be activated after inputting test modes No. 0171 through No. 0173 to activate the new setting.	
	Left 2 digits= MONTH: 1 to 12 (January to December) Right 2 digits = DAY: 1 to 31 (Days 1 to 31) 1 = 1 month, 1 = 1 day Default: 0101 (January 1)	Left 2 digits= MONTH: 1 to 12 (January to December) Right 2 digits = DAY: 1 to 31 (Days 1 to 31) 1 = 1 month, 1 = 1 day Default: 0101 (January 1)	
0173	Machine Clock Setting (HOUR & MINUTE)	Machine Clock Setting (HOUR & MINUTE)	
	Sets HOUR/MINUTE in clock. Test Mode No. 0101 must be activated after inputting test modes No. 0171 through No. 0173 to activate the new setting.	Sets HOUR/MINUTE in clock. Test Mode No. 0101 must be activated after inputting test modes No. 0171 through No. 0173 to activate the new setting.	
	Left 2 digits = HOUR: 0 to 23 (0 to 23 hours) Right 2 digits = MINUTE: 0 to 59 (0 to 59 minutes) 1 = 1 hour, 1 = 1 minute Default : 0000 (0 hours, 0 minute)	Left 2 digits = HOUR: 0 to 23 (0 to 23 hours) Right 2 digits = MINUTE: 0 to 59 (0 to 59 minutes) 1 = 1 hour, 1 = 1 minute Default : 0000 (0 hours, 0 minute)	
0174	Chinese Paper No.16 (Width data setting)	Chinese Paper No.16 (Width data setting)	
	Sets paper width data for Chinese paper No.16	Sets paper width data for Chinese paper No.16	
	Range : 191 to 199 (191mm to 199mm) Unit : 1 = 1mm Default : 195 (195mm)	Range : 191 to 199 (191mm to 199mm) Unit : 1 = 1mm Default : 195 (195mm)	
0175	Chinese Paper No.8(width) No.16(length) data setting.	Chinese Paper No.8(width) No.16(length) data setting.	
	Sets paper width (No.8) & length (No.16) data	Sets paper width (No.8) & length (No.16) data	
	Range : 266 to 276 (266mm to 276mm) Unit : 1 = 1mm Default : 271 (271mm)	Range : 266 to 276 (266mm to 276mm) Unit : 1 = 1mm Default : 271 (271mm)	
0176	Chinese Paper No.8 (Length data setting)	Chinese Paper No.8 (Length data setting)	
	Sets paper length data for Chinese paper No.8	Sets paper length data for Chinese paper No.8	
	Range : 385 to 395 (385mm to 395mm) Unit : 1 = 1mm Default : 390 (390mm)	Range : 385 to 395 (385mm to 395mm) Unit : 1 = 1mm Default : 390 (390mm)	
0177		Paper Size Detection Selection (Normal or Chinese)	
		Normal paper size detection or Chinese paper size detection.	
		Setting: 0 : Chinese paper size detection. <default on China machine> 1 : Normal paper size detection <default on all other machines>	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0178	DCC Display Selection	DCC Display Selection	
	Selection between normal counter and digital copy counter display.	Selection between normal counter and digital copy counter display.	
0178	Setting: 0 : Counter display <default on all other machines> 1 : DCC (Digital Copy Counter) display <default on Europe machines> 2 : No display	Setting: 0 : Counter display <default on all other machines> 1 : DCC (Digital Copy Counter) display <default on Europe machines> 2 : No display	
0181	File Data Transmit Function Setting		
	<p>Maintenance information, or print quantity information and count-charge mail activation or inactivation. This function does not exist on China specification machine.</p> <p>[MAINTENANCE INFORMATION] The [Maintenance Information] mail button becomes available in the Functions Tab when this test mode is selected to [1] and if the machine is equipped with NET-D;G2 optional card.</p> <p>[PRINT QUANTITY INFORMATION] The [Print Quantity Information] mail button becomes available in the Functions Tab when this test mode is selected to [2] and if the machine is equipped with NET-D;G2 optional card.</p> <p>[COUNT-CHARGE INFORMATION] The [Count-Charge Information] mail button becomes available in the Functions Tab when this test mode is selected to [2] and test mode No.0183 is selected to [1], and if the machine is equipped with NET-D;G2 optional card.</p>		
0182	Setting: 0 : Inactive <default> 1 : Maintenance Information (REV.) 2 : Print Quantity Information & Count Charge Information		
	Counter / Stock Info. Mail Control		
0182	Consumable stock data by e-mail is activated or deactivated by this test mode. This function does not exist on China specification machine.		
	The [Counter/Stock Information] mail button becomes available on the Admin. Tab when this test mode is selected to [1] and if the machine is equipped with NET-D;G2 optional card.		
0182	Setting: 0 : Inactive 1 : Active <default>		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0183	Count Charge Display Selection	Count Charge Display Selection	
	Selects whether to display the [COUNT CHARGE] button on the User Mode display.	Selects whether to display the [COUNT CHARGE] button on the User Mode display.	
0184	Setting: 0 : Inactive <default> 1 : Active	Setting: 0 : Inactive <default> 1 : Active	
	Count Charge Mail Transmit Date Selection	Count Charge Mail Transmit Date Selection	
0184	Sets the Warning display date to indicate the Count Charge information mail sending.	Sets the Warning display date to indicate the Count Charge information mail sending.	
	Range : 0 to 31 Unit : 1 = First date of each month Default : 0 : No warning display <default> If the date selected is 29, 30 or 31, if particular month does not include the selected date, the warning appears on the last date of the month.	Range : 0 to 31 Unit : 1 = First date of each month Default : 0 : No warning display <default> If the date selected is 29, 30 or 31, if particular month does not include the selected date, the warning appears on the last date of the month.	

4. Image Processing / Scanning Test Mode

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No.	Sensor & Switch Check				
0200	FB/AF HP sensor		FB/AF HP sensor		
		ON: Carriage at Home position		ON: Carriage at Home position	
0201	Flatbed Original Det. Sensor		Flatbed Original Det. Sensor		
		ON: Detecting original		ON: Detecting original	
0209	Stage Cover Sensor		Stage Cover Sensor		
		ON: Stage cover closed		ON: Stage cover closed	
No.	Motor & Solenoid				
0260	Scanner lamp		Scanner lamp		
		Switches ON/OFF scanner lamp		Switches ON/OFF scanner lamp	
No.	Unit Check				
0281	Carriage Home Action		Carriage Home Action		
		Brings the carriage to the Home Position.		Brings the carriage to the Home Position.	
0284	Scanner Cycle Continuous Action		Scanner Cycle Continuous Action		
		Scanner A3 size original scanning cycle movement with auto-base-control (ABC) action. HP position - Shading compensation - Auto base control action - A3 scanning -HP position. Pressing the STOP key ends the movement and returns to Home position.		Scanner A3 size original scanning cycle movement with auto-base-control (ABC) action. HP position - Shading compensation - Auto base control action - A3 scanning -HP position. Pressing the STOP key ends the movement and returns to Home position.	
0287	Scanner Lamp Replace Positioning		Scanner Lamp Replace Positioning		
		Moves the lamp carriage to lamp replacing position.		Moves the lamp carriage to lamp replacing position.	
0289	Scanner SHIPPING Positioning		Scanner SHIPPING Positioning		
		Moves the lamp carriage to the machine shipping position.		Moves the lamp carriage to the machine shipping position.	
No.	Data Setting				
0340	Line-Copy Slice Level Adjustment in Scanning		Line-Copy Slice Level Adjustment in Scanning		
		Sets the slice level for line mode.		Sets the slice level for line mode.	
		Range : -16 to 16 (Larger values for lighter print.) Unit : 1 Default : 0		Range : -16 to 16 (Larger values for lighter print.) Unit : 1 Default : 0	
0341	Auto Base Control (ABC) Slice Level Adjustment		Auto Base Control (ABC) Slice Level Adjustment		
		Sets the slice level for ABC in line mode.		Sets the slice level for ABC in line mode.	
		Range : -16 to 16 (Larger values for lighter print.) Unit : 1 Default : 0		Range : -16 to 16 (Larger values for lighter print.) Unit : 1 Default : 0	
0345	Photo/Duo Default Setting		Photo/Duo Default Setting		
		Image processing selection when Photo or Duo is selected in master-making. Applies to both the master-making and printing to linked printer (RLP).		Image processing selection when Photo or Duo is selected in master-making. Applies to both the master-making and printing to linked printer (RLP).	
		Setting: 0 : Error-diffusion <default> 1 : Dot-Screen-1 2 : Dot-screen-2 3 : Dot-Screen-3 4 : Dot-Screen-4		Setting: 0 : Error-diffusion <default> 1 : Dot-Screen-1 2 : Dot-screen-2	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0350	Halftone Curve Selection (Photo)	Halftone Curve Selection (Photo)	
	Selects the matrix forming the halftone-curve base for photo mode.	Selects the matrix forming the halftone-curve base for photo mode.	
	Range : 0 to 8 Unit : 1 Default : 4	Range : 0 to 8 Unit : 1 Default : 4	
0351	Halftone Curve Selection (Dot Photo)	Halftone Curve Selection (Dot Photo)	
	Selects the matrix forming the halftone-curve base for dot mode.	Selects the matrix forming the halftone-curve base for dot mode.	
	Range : 0 to 8 Unit : 1 Default : 4	Range : 0 to 8 Unit : 1 Default : 4	
0352	Halftone Curve Selection (Duo)	Halftone Curve Selection (Duo)	
	Selects the matrix forming the halftone-curve base for DotDuo mode.	Selects the matrix forming the halftone-curve base for DotDuo mode.	
	Range : 0 to 8 Unit : 1 Default : 4	Range : 0 to 8 Unit : 1 Default : 4	
0353	Halftone Curve Selection (Dot Duo)	Halftone Curve Selection (Dot Duo)	
	Selects the matrix forming the halftone-curve base for DotDuo mode.	Selects the matrix forming the halftone-curve base for DotDuo mode.	
	Range : 0 to 8 Unit : 1 Default : 4	Range : 0 to 8 Unit : 1 Default : 4	
0359	Trimming Slice Level Adjustment		
	Sets the slice level for the trimming.		
	Range : -16 to +16 (Larger values for lighter print.) Unit : 1 Default : -2		
0368	Carriage Idling Position Selection		
	Changes the idling position of the Scanner carriage.		
	Setting: 0 : HP position <default> 1 : Second HP position		
0380	FB Horizontal Scanning Position Adjustment	FB Horizontal Scan Position Adjustment	
	Adjusts the original horizontal scanning position on the flatbed for FB scanning. (Different test mode exists for AF scanning.)	Adjusts the original horizontal scanning position on the flatbed for FB scanning. (Different test mode exists for AF scanning.)	
	Range : -30 to +30 (-3.0 mm to +3.0 mm) (+ is to the left) Unit : 5 (0.5mm) Default : 0 (0 mm)	Range : -30 to +30 (-3.0 mm to +3.0 mm) (+ is to the left) Unit : 5 (0.5mm) Default : 0 (0 mm)	
0381	FB Scanning Start Position Adjustment	FB Scanning Start Position Adjustment	
	Adjusts the original scanning start position on the flatbed (amount of top image omitted)	Adjusts the original scanning start position on the flatbed (amount of top image omitted)	
	Range : -40 to +40 (-4.0mm to +4.0mm) (+ omits more top image of the original and moves the printed image up) Unit : 1 (0.1mm) Default : 0 (0mm)	Range : -40 to +40 (-4.0mm to +4.0mm) (+ omits more top image of the original and moves the printed image up) Unit : 1 (0.1mm) Default : 0 (0mm)	

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
0382	FB Scanning Speed Adjustment (Elongation & Shrinkage)		FB Scanning Speed Adjustment (Elongation & Shrinkage)		
		Adjusts the original scanning speed on the flatbed (Adjusts the speed of Read Pulse Motor)		Adjusts the original scanning speed on the flatbed (Adjust the speed of Read Pulse Motor)	
		Range : -50 to +50 (-5.0% to +5.0%) (-) shrinks the image Unit : 1 (0.1%) Default : 0 (0%)		Range : -50 to +50 (-5.0% to +5.0%) (-) shrinks the image Unit : 1 (0.1%) Default : 0 (0%)	
0386	Center black line		Center black line		
		Adds center line on the prints during master making or printout from linked printer. (The center line is added only when the original is scanned on the Flat Bed.) The setting returns back to the default when machine power is turned OFF.		Adds center line on the prints during master making or printout from linked printer. (The center line is added only when the original is scanned on the Flat Bed.) The setting returns back to the default when machine power is turned OFF.	
		Setting : 0 : No center line <default> 1 : Adds center line		Setting : 0 : No center line <default> 1 : Adds center line	
0399	Edge Emphasis Threshold Offset				
		Sets the offset for the edge emphasis.			
		Range : -128 to 127 Unit : 1 Default : 0			

5. Master Making / Master Disposal Test Mode

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No.	Sensor & Switch Check				
0400	Master positioning sensor		Master positioning sensor		
		ON: Master detected		ON: Master detected	
0401	Master detection sensor		Master detection sensor		
		ON: Master detected		ON: Master detected	
0402	Master end sensor		Master end sensor		
		ON: Master end seal detected		ON: Master end seal detected	
0403			Cutter HP SW [Shuttle blade cutter]		
				ON: SW pressed (Cutter at HP)	
	Cutter HP SW [Rotary cutter]		Cutter HP SW [Rotary cutter]		
		ON: SW not pressed (Cutter at HP)		ON: SW not pressed (Cutter at HP)	
0404			Cutter Stop Position SW [Shuttle blade cutter]		
				ON: SW pressed (Cutter at end position)	
0406	TPH Pressure Sensor		TPH Pressure Sensor		
		ON: Sensor light blocked (TPH down position)		ON: Sensor light blocked (TPH down position)	
0407	Master Making Unit Top Cover Safety Switch		Master Making Unit Top Cover Safety Switch		
		ON: Switch pressed (cover closed)		ON: Switch pressed (cover closed)	
0408	Master Making Unit Lock Sensor		Master Making Unit Lock Sensor		
		ON: Sensor light blocked (Master-making unit locked in position).		ON: Sensor light blocked (Master-making unit locked in position).	
0409	Master Making Unit Safety Switch		Master Making Unit Safety Switch		
		ON: SW pressed (Master making unit is set in position). Other safety switches must be ON for this check.		ON: SW pressed (Master making unit is set in position). Other safety switches must be ON for this check.	
0410	Master-making-unit releasing button		Master-making-unit releasing button		
		ON: Button is pressed		ON: Button is pressed	
0420	Master Removal Sensor		Master Removal Sensor		
		ON: Sensor light is not blocked (Master is jammed).		ON: Sensor light is not blocked (Master is jammed).	
0421	Master Compression HP Sensor		Master Compression HP Sensor		
		ON: Sensor light blocked (Master compression plate at HP)		ON: Sensor light blocked (Master compression plate at HP)	
0423	Master Disposal BOX Safety Switch		Master Disposal BOX Safety Switch		
		ON: Master disposal box is set in place Other safety switches must be ON for this check.		ON: Master disposal box is set in place Other safety switches must be ON for this check.	
0424	Master Disposal Box Set Sensor		Master Disposal Box Set Sensor		
		ON: Sensor light blocked (Master disposal box is set in place.)		ON: Sensor light blocked (Master disposal box is set in place.)	
0425	Master Compression Motor FG Sensor		Master Compression Motor FG Sensor		
		ON: Sensor light blocked (Encoder disc is detected)		ON: Sensor light blocked (Encoder disc is detected)	
0426	Master Removal Motor FG Sensor		Master Removal Motor FG Sensor		
		ON: Sensor light blocked (Encoder disc is detected)		ON: Sensor light blocked (Encoder disc is detected)	
No.	Motor & Solenoid				
0460	Thermal Pressure Motor (CW)		Thermal-pressure motor (CW)		
		Rotates in clock-wise (CW) direction		Rotates in clock-wise (CW) direction	
0461	Thermal Pressure Motor (CCW)		Thermal Pressure Motor (CCW)		
		Rotates in counter-clock-wise (CCW) direction		Rotates in counter-clock-wise (CCW) direction	

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
0462	Write Pulse Motor in feed direction		Write Pulse Motor in feed direction		
		Rotates in master feeding direction. (CW direction)		Rotates in master feeding direction (CW direction)	
0463	Write Pulse Motor in return direction		Write Pulse Motor in return direction		
		Rotates in master returning direction. (CCW direction)		Rotates in master returning direction. (CCW direction)	
0464	Load Pulse Motor in feed direction		Load Pulse Motor in feed direction		
		Rotates in master feeding direction. (CW direction)		Rotates in master feeding direction. (CW direction)	
0466	Write pulse motor + Load pulse motor in feed direction		Write pulse motor + Load pulse motor in feed direction		
		Rotates both the Write & Load pulse motors in master feed direction		Rotates both the Write & Load pulse motors in master feed direction	
0467	Master Making Unit Release Button LED		Master Making Unit Release Button LED		
		LED illuminates.		LED illuminates.	
0470	Master Remove Motor in feed direction		Master Remove Motor in feed direction		
		Rotates in the direction to feed the removed master towards the master disposal box. (CW direction)		Rotates in the direction to feed the removed master towards the master disposal box. (CW direction)	
No.	Unit Check				
0480	Cutter Motor 1 cycle motion		Cutter motor 1 cycle motion		
		Performs one cutting motion.		Performs one cutting motion.	
0481	Thermal Pressure Motor action (TPH down)		Thermal Pressure Motor action (TPH down)		
		Pushes the TPH down.		Pushes the TPH down.	
0482	Thermal Pressure Motor action (TPH up)		Thermal pressure motor action (TPH up)		
		Pushes the TPH up		Pushes the TPH up	
0488	Master Making Unit Lock Solenoid ON/OFF action		Master Making Unit Lock Solenoid ON/OFF action		
		Press START key to switch ON the Solenoid. Solenoid automatically switches OFF 10 sec. later.		Press START key to switch ON the Solenoid. Solenoid automatically switches OFF 10 sec. later.	
0490	Master Compression Plate home positioning		Master Compression Plate home positioning		
		Moves master compression plate to the home position.		Moves master compression plate to the home position.	
0491	Master Compression Plate Protect Position				
		Moves master compression plate to the Protection Mode position.			
0493	Master Compression Plate Continuous Movement		Master Compression Plate Continuous Movement		
		Repeats disposal compression action with interval of 3 seconds between the each.		Repeats disposal compression action with interval of 3 seconds between the each.	
0494	Cutter motor ON action (cut direction)		Cutter motor ON action (cut direction)		
		Rotates the cutter motor in the cut direction (maximum 10 seconds) Caution: This test mode is to check the IC driver. Disconnect the connector to the Cutter motor before the activation. Otherwise the machine will be damaged.		Rotates the cutter motor in the cut direction (maximum 10 seconds) Caution: This test mode is to check the IC driver. Disconnect the connector to the Cutter motor before the activation. Otherwise the machine will be damaged.	
No.	Data Clearing				
0510	Master removal software count clear				
		Initializes the master removal software count to 0.			
No.	Data Check				
0521	TPH thermistor temperature data		TPH thermistor temperature data		
		Displays the temperature of the TPH thermistor in degrees Celsius.		Displays the temperature of the TPH thermistor in degrees Celsius.	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0524	TPH power voltage	TPH power voltage	
	Displays the voltage applied to the TPH when the power to the TPH is switched ON. Divide the displayed number by 100 (1000 = 10V).	Displays the voltage applied to the TPH when the power to the TPH is switched ON. Divide the displayed number by 100 (1000 = 10V).	
0527	Master usage start date	Master usage start date	
	Displays master use start date stored in Master TAG. For example, 2007/12/28 will be displayed as 2007 and 1228 alternately.	Displays master use start date stored in Master TAG. For example, 2007/12/28 will be displayed as 2007 and 1228 alternately.	
0528	Master removal software count display		
	Displays the master removal software count.		
No.	Data Setting		
0540	Master Leading-Edge Position Adjustment	Master Leading-Edge Position Adjustment	
	Adjusts return movement of the master after the master cutting action, so the Master positioning sensor is OFF when the master set action is completed.	Adjusts return movement of the master after the master cutting action, so the Master positioning sensor is OFF when the master set action is completed.	
	Range : 0 to 100 (0 mm to +10.0 mm) (+) returns the master material further back. Unit : 1 (0.1 mm) Default : 50 (5.0 mm)	Range : 0 to 100 (0 mm to +10.0 mm) (+) returns the master material further back. Unit : 1 (0.1 mm) Default : 50 (5.0 mm)	
0541	Write start-position adjustment	Write start-position adjustment	
	Adjusts the master-making start position on the master material by changing the amount of rotation in CW or CCW direction the write-pulse-motor makes before the write-signal goes on.	Adjusts the master-making start position on the master material by changing the amount of rotation in CW or CCW direction the write-pulse-motor makes before the write-signal goes on.	
	Range : -50 to +50 (-5.0 mm to +5.0 mm) (+ values return the master material back more before the write signal goes on. The master-making starts from closer to the leading edge of the master material. As a result, the printed image position on the paper comes up.) Unit : 1 (0.1 mm) Default : -15 (-1.5 mm)	Range : -50 to +50 (-5.0 mm to +5.0 mm) (+ values return the master material back more before the write signal goes on. The master-making starts from closer to the leading edge of the master material. As a result, the printed image position on the paper comes up.) Unit : 1 (0.1 mm) Default : EZ3/EV3 = -15 (-1.5mm) EZ2/EV2 = 0 (0mm)	
0542	Master-making length adjustment	Master-making length adjustment	
	Adjusts the master-making area length. Range : -100 to +100 (-10.0 mm to +10.0 mm) (+ values increase master-making area length) Unit : 1 (0.1 mm) Default : 0 (0 mm)	Adjusts the master-making area length. Range : -100 to +100 (-10.0 mm to +10.0 mm) (+ values increase master-making area length) Unit : 1 (0.1 mm) Default : 0 (0 mm)	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0543	Master-clamp-amount adjustment	Master-clamp-amount adjustment	
	Adjusts the master-clamp amount under the clamp plate during master loading onto the drum. This adjustment affects the write-start position. Range : -100 to +100 (-10.0 mm to +10.0 mm) (+ values increase clamping amount) Unit : 1 (0.1 mm) Default : 15 (1.5 mm)	Adjusts the master-clamp amount under the clamp plate during master loading onto the drum. This adjustment affects the write-start position. Range : -100 to +100 (-10.0 mm to +10.0 mm) (+ values increase clamping amount) Unit : 1 (0.1 mm) Default : 15 (1.5 mm)	
0544	Master cut length adjustment	Master cut length adjustment	
	Adjusts the total length of one master (changes the master cut timing against the drum angle). 1 degree = approximately 1.5 mm Range : -100 to +100 (-10.0 degrees to +10.0 degrees) (+ values increase the master length). Unit : 5 (0.5 degrees) Default : -10 (-1 degrees)	Adjusts the total length of one master (changes the master cut timing against the drum angle). 1 degree = approximately 1.5 mm Range : -100 to +100 (-10.0 degrees to +10.0 degrees) (+ values increase the master length). Unit : 5 (0.5 degrees) Default : -10 (-1 degrees)	
0545	TPH heat energy adjustment		
	Adjusts the TPH heat energy. Range : 0 to 8 Unit : 1 Default : 4		
0547	Master-making speed adjustment (Elongation & Shrinkage)	Master-making speed adjustment (Elongation & Shrinkage)	
	Image elongation and shrinkage in making master. (Adjusts the speed of the write pulse motor.) Range : -100 to +100 (-10.0% to +10.0%) (+) elongates the image in master making. Unit : 1 (0.1%) Default : 0 (0%)	Image elongation and shrinkage in making master. (Adjusts the speed of the write pulse motor.) Range : -100 to +100 (-10.0% to +10.0%) (+) elongates the image in master making. Unit : 1 (0.1%) Default : EZ3/EV3 = 0 (0%) EZ2/EV2 = -6 (-0.6%)	
0548	Write Roller diameter compensation		
	Compensates the Write roller diameter differences between one Write roller to the other. Range : 2305 to 2315 (23.05 mm to 23.15 mm) Unit : 1 (0.01 mm) Default : 2310 (23.10 mm)		
0570	Master Removal Roller stop timing	Master Removal Roller stop timing	
	Sets the timing for the Master removal rollers to stop in relation to the Print drum angle. Range: -50 to +50 (-50 to +50 degrees) Unit: 1 (1 degree) Default: 0 (0 degree)	Sets the timing for the Master removal rollers to stop in relation to the Print drum angle. Range: -50 to +50 (-50 to +50 degrees) Unit: 1 (1 degree) Default: 0 (0 degree)	
0571	Master Removal Roller stop timing (A4-wide Print drum)		
	Sets the timing for the Master removal rollers to stop inn relation to A4W Drum angle. Range: -50 to +50 (-50 to +50 degrees) Unit: 1 (1 degree) Default: 0 (0 degree)		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0572	Compulsory set action of Master disposal box	Compulsory set action of Master disposal box	
	<p>Selects whether to activate or deactivate the compulsory set action of Master disposal box after machine power ON, machine wake-up or when Master disposal box is inserted in the machine.</p> <p>This test mode is not selectable from the Test Mode menu.</p> <p>Setting : 0 : Not active <default> 1 : Active</p>	<p>Selects whether to activate or deactivate the compulsory set action of Master disposal box after machine power ON, machine wake-up or when Master disposal box is inserted in the machine.</p> <p>This test mode is not selectable from the Test Mode menu.</p> <p>Setting : 0 : Not active <default> 1 : Active</p>	
0573	Master compression-limit position (maximum end position).	Master compression-limit position (maximum end position).	
	<p>Sets the pulse count for the compression-limit position (maximum end position).</p> <p>Range : 106 to 163 (106 to 163 pulses) (Master compression plate 65 to 100 degrees from home position).</p> <p>Unit : 1 (1 pulse) Default : 147 pulses (Master compression plate angle 90 degrees from home position)</p>	<p>Sets the pulse count for the compression-limit position (maximum end position).</p> <p>Range : 106 to 163 (106 to 163 pulses) (Master compression plate 65 to 100 degrees from home position).</p> <p>Unit : 1 (1 pulse) Default : 147 pulses (Master compression plate angle 90 degrees from home position)</p>	
0575	Master compression duration adjustment	Master compression duration adjustment	
	<p>Sets the stop time duration for one master compression. (The compressing action is stopped when the time for the encoder disc to make one rotation exceeds the set time.)</p> <p>Range : 500 to 7000 (5 msec to 70 msec) Unit : 25 (0.25 msec) Default : 4000 (40 msec)</p>	<p>Sets the stop time duration for one master compression. (The compressing action is stopped when the time for the encoder disc to make one rotation exceeds the set time.)</p> <p>Range : 500 to 7000 (5 msec to 70 msec) Unit : 25 (0.25 msec) Default : 4000 (40 msec)</p>	
0576	Master disposal box full detection position adjustment	Master disposal box full detection position adjustment	
	<p>Sets the pulse count for master disposal box full detection position.</p> <p>Range : 120 to 162 (120 pulse to 162 pulse) (Master compression plate angle 35 degrees to 99 degrees from home position).</p> <p>Unit : 1 (1 pulse) Default : 120 (74 degrees) for A3 & Ledger 146 (90 degrees) for B4, A4 & Letter</p>	<p>Sets the pulse count for master disposal box full detection position.</p> <p>Range : 120 to 162 (120 pulse to 162 pulse) (Master compression plate angle 35 degrees to 99 degrees from home position).</p> <p>Unit : 1 (1 pulse) Default : 120 (74 degrees) for A3 & Ledger 146 (90 degrees) for B4, A4 & Letter</p>	
0577	Master compression protect position adjustment		
	<p>Selects the position of the master compression plate in Protection Mode.</p> <p>Range : -30 to +30 (-30 to +30 pulses) Unit : 5 pulses Default : 0 pulse</p>		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0578	Master removal motor speed selection	Master removal motor speed selection	
	Selects the Master removal motor speed in relation to the print drum rotation speed.	Selects the Master removal motor speed in relation to the print drum rotation speed.	
0579	Setting: 0 : 10% slower than the Print drum speed. 1 : Same speed as the Print drum. 2 : 5% faster than the Print drum speed. 3 : 10% faster than the Print drum speed. <default> 4 : 20% faster than the Print drum speed. 5 : 30% faster than the Print drum speed.	Setting: 0 : 10% slower than the Print drum speed. 1 : Same speed as the Print drum. 2 : 5% faster than the Print drum speed. 3 : 10% faster than the Print drum speed. <default> 4 : 20% faster than the Print drum speed. 5 : 30% faster than the Print drum speed.	
	Compressing stop default position self-adjustment selection		
0584	Enables/disables automatic adjustment to correct the default value of the compressing stop position.		
	Setting: 0 : Disable 1 : Enable <default>		
0585	Master removal FULL software count selection	Master removal FULL software count selection	
	Sets the software FULL count for the master removal when the FULL detection by the software count is selected	Sets the software FULL count for the master removal when the FULL detection by the software count is selected	
0585	Range : 50 to 100 (50 to 100 masters) Unit : 10 (10 masters) Default : 100 (100 masters)	Range : 50 to 100 (50 to 100 masters) Unit : 10 (10 masters) Default : 100 (100 masters)	
	Master removal software count Disable/Enable selection	Master removal software count Disable/Enable selection	
0585	Selection to Enable (use the software count) or Disable (use the conventional FG sensor and Master compression plate timing) the Master removal software count system.	Selection to Enable (use the software count) or Disable (use the conventional FG sensor and Master compression plate timing) the Master removal software count system.	
	Setting: 0 : Disable 1 : Enable <default>	Setting: 0 : Disable 1 : Enable <default>	

6. Paper Feeding / Paper Ejection Test mode

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No.	Sensor & Switch Check				
0600	Paper detection sensor		Paper detection sensor		
		ON: Sensor light reflected (paper detected)		Sensor light reflected (paper detected)	
0601	Paper size detection sensor		Paper size detection sensor		
		ON: Sensor light reflected (paper detected)		ON: Sensor light reflected (paper detected)	
0602	Elevator upper limit sensor A		Elevator upper-limit sensor A		
		ON: Sensor light blocked		ON: Sensor light blocked	
0603	Elevator upper limit sensor B		Elevator upper-limit sensor B		
		ON: Sensor light blocked		ON: Sensor light blocked	
0604	Elevator lower limit sensor		Elevator lower-limit sensor		
		ON: Sensor light blocked (Sensor detecting paper feed tray at maximum down position)		ON: Sensor light blocked (Sensor detecting paper feed tray at maximum down position)	
0605	Paper sensor		Paper sensor		
		ON: Sensor light reflected (paper detected)		ON: Sensor light reflected (paper detected)	
0606	Paper ejection sensor		Paper ejection sensor		
		ON: Sensor light reflected (paper detected)		ON: Sensor light reflected (paper detected)	
0607	Paper feed tray upper safety switch		Paper feed tray upper safety switch		
		ON: Safety switch not triggered		ON: Safety switch not triggered	
0608	Paper feed tray lower safety SW		Paper feed tray lower safety SW		
		ON: Safety switch not triggered		ON: Safety switch not triggered	
0609	Paper feed tray button		Paper feed tray button		
		ON: Button (switch) is pressed		ON: Button (switch) is pressed	
0612	Paper ejection FG sensor		Paper ejection FG sensor		
		ON: Sensor light blocked (detecting encoder disc)		ON: Sensor light blocked (detecting encoder disc)	
0613	Card feeder (OPTION) attachment detection		Card feeder (OPTION) attachment detection		
		ON: Card feeder exists		ON: Card feeder exists	
0614	Paper feed pressure sensor		Paper feed pressure sensor		
		ON: Paper feed pressure lever is at CARD.		ON: Paper feed pressure lever is at CARD.	
0618	Paper ejection wing HP sensor				
		ON: Sensor light blocked (blocked by shield plate)			
No.	Motor & Solenoid				
0660	Paper ejection motor		Paper ejection motor		
		Rotates the motor		Rotates the motor	
0661	Suction fan		Suction fan		
		Activates the fan		Activates the fan	
0662	Separation fan		Separation fan		
		Activates the fan		Activates the fan	
0666	Paper ejection wing pulse motor (CW)				
		Rotates the pulse motor in clockwise direction			
0667	Paper ejection wing pulse motor (CCW)				
		Rotates the pulse motor in counter-clockwise direction			
No.	Unit Check				
0680	Paper ejection area Fan check				
		Turns ON the Separation Fan and Suction Fan at same time.			
0681	Paper feed tray maximum up positioning		Paper feed tray maximum up positioning		
		Raises the paper feed tray to the maximum up position.		Raises the paper feed tray to the maximum up position.	
0682	Paper feed tray elevation up & down		Paper feed tray elevation up & down		
		Raises and lowers the paper-feed tray repeatedly		Raises and lowers the paper-feed tray repeatedly	
0683	Paper feed tray maximum down positioning		Paper feed tray maximum down positioning		
		Lowers the paper feed tray to the maximum down position.		Lowers the paper feed tray to the maximum down position.	

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
0687	Paper feed reverse-rotation prevention solenoid ON/OFF action		Paper feed reverse-rotation prevention solenoid ON/OFF action		
		Turns the solenoid ON when the Start key is pressed. The solenoid automatically switches OFF after 10 seconds.		Turns the solenoid ON when the Start key is pressed. The solenoid automatically switches OFF after 10 seconds.	
0688	Paper feed clutch ON/OFF action		Paper feed clutch ON/OFF action		
		Presses START key to turn ON the clutch. The clutch automatically switches off after 10 seconds.		Presses START key to turn ON the clutch. The clutch automatically switches off after 10 seconds.	
0703	Paper ejection wing HP positioning				
		Positions the paper ejection wing to the home position.			
0704	Paper ejection wing fixed position				
		Fixes the paper wing position to the position selected by test mode No. 0780.			
0705	Paper sensor automatic adjustment		Paper sensor automatic adjustment		
		One sheet of clean white paper must be set between the paper sensor during this procedure.		One sheet of clean white paper must be set between the paper sensor during this procedure.	
0708	Elevator motor ON action		Elevator motor ON action		
		Rotates the Elevator motor in the elevating direction (maximum 10 seconds) Caution: This test mode is to check the IC driver. Disconnect the connector to the Elevator motor before the activation. Otherwise the machine will be damaged.		Rotates the Elevator motor in the elevating direction (maximum 10 seconds) Caution: This test mode is to check the IC driver. Disconnect the connector to the Elevator motor before the activation. Otherwise the machine will be damaged.	
No.	Data Check				
0721	Paper width display (mm)		Paper width display (mm)		
		Displays the potentiometer adjustment result in millimeter value to the first decimal.		Displays the potentiometer adjustment result in millimeter value to the first decimal.	
0722	Paper sensor A/D value display		Paper sensor A/D value display		
		Displays the A/D value of the Paper sensor.		Displays the A/D value of the Paper sensor.	
No.	Data Setting				
0740	Elevator upper-limit position selection.		Elevator upper-limit position selection.		
		Selects the paper-feed-tray upper-limit position. If 0 (Auto) is selected, the upper limit position is linked to the paper feed pressure lever position. If 1, 2 or 3 is selected, the upper limit stop position is fixed.		[Not available on EZ2/EV2] Selects the paper-feed-tray upper-limit position. If 0 (Auto) is selected, the upper limit position is linked to the paper feed pressure lever position. If 1, 2 or 3 is selected, the upper limit stop position is fixed.	
	Setting: 0 : Auto - Linked to the Pressure adjust lever <default> 1 : Standard paper position 2 : Card paper position 3 : Custom paper position			Setting: 0 : Auto - Linked to the Pressure adjust lever <default> 1 : Standard paper position 2 : Card paper position 3 : Custom paper position	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0741	Paper feed clutch ON angle (NORMAL)	Paper feed clutch ON angle (NORMAL)	
	Adjusts the drum angle timing for activating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Normal>.	Adjusts the drum angle timing for activating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Normal>.	
0742	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
	Paper feed clutch OFF angle (NORMAL)	Paper feed clutch OFF angle (NORMAL)	
0743	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Normal>.	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Normal>.	
	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
0744	Paper feed retries after one paper feed action on 1st paper feed area.	Paper feed retries after one paper feed action on 1st paper feed area.	
	Sets the number of times the first paper feeding is tried when no paper feed occurs.	Sets the number of times the first paper feeding is tried when no paper feed occurs.	
0745	Setting: 1 : No paper feed retry action. <default> (The machine displays paper feed jam on the first paper feed try.) 2 : One more paper feed action. (Paper jam display if no paper feeds after second paper feed try.) 3 : Two more tries. (Paper jam display if no paper feed after third paper feed try.)	Setting: 1 : No paper feed retry action. <default> (The machine displays paper feed jam on the first paper feed try.) 2 : One more paper feed action. (Paper jam display if no paper feeds after second paper feed try.) 3 : Two more tries. (Paper jam display if no paper feed after third paper feed try.)	
	Paper Feed Clutch OFF Angle (CARD)	Paper Feed Clutch OFF Angle (CARD)	
0746	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Card>.	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Card>.	
	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
0747	Paper feed clutch ON angle (CARD)	Paper feed clutch ON angle (CARD)	
	Adjusts the drum angle timing for activating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Card>.	Adjusts the drum angle timing for activating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Card>.	
0748	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
	Paper feed clutch OFF angle (CARD)	Paper feed clutch OFF angle (CARD)	
0749	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Card>.	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Paper feed pressure lever is set to <Card>.	
	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0746	Paper feed clutch ON angle (Optional card feeder)	Paper feed clutch ON angle (Optional card feeder)	
	Adjusts the drum angle timing for activating the Paper feed clutch. This test mode applies only when the Optional card feeder is attached.	Adjusts the drum angle timing for activating the Paper feed clutch. This test mode applies only when the Optional card feeder is attached.	
	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
0747	Paper feed clutch OFF angle (Optional card feeder)	Paper feed clutch OFF angle (Optional card feeder)	
	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Optional card feeder is attached.	Adjusts the drum angle timing for deactivating the Paper feed clutch. This test mode applies only when the Optional card feeder is attached.	
	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
0748	Scraper clutch OFF angle (Optional card feeder)	Scraper clutch OFF angle (Optional card feeder)	
	Adjusts the drum angle timing for deactivating the Scraper clutch. This test mode applies only when the Optional card feeder is attached.	Adjusts the drum angle timing for deactivating the Scraper clutch. This test mode applies only when the Optional card feeder is attached.	
	Range : -100 to +100 (-10.0 to +10.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -100 to +100 (-10.0 to +10.0 degrees) (+ values delay clutch OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
0750	Paper feed reverse-rotation prevention solenoid Activate/Deactivate selection (Optional card feeder)	Paper feed reverse-rotation prevention solenoid Activate/Deactivate selection (Optional card feeder)	
	Activates or Deactivates the Paper feed reverse-rotation prevention solenoid. This test mode applies only when the Optional card feeder is attached.	Activates or Deactivates the Paper feed reverse-rotation prevention solenoid. This test mode applies only when the Optional card feeder is attached.	
	Setting: 0 : Deactivate 1 : Activate <default> (Activates when the Paper feed pressure lever is selected to CARD.)	Setting: 0 : Deactivate 1 : Activate <default> (Activates when the Paper feed pressure lever is selected to CARD.)	
0751	Paper feed jam detection angle. (Paper IN)	Paper feed jam detection angle. (Paper IN)	
	Adjusts the drum angle timing for detecting the paper feed jam by paper sensor. (Paper IN)	Adjusts the drum angle timing for detecting the paper feed jam by paper sensor. (Paper IN)	
	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay detection timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay detection timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0752	Paper feed jam detection angle. (Paper OUT)	Paper feed jam detection angle. (Paper OUT)	
	Adjusts the drum angle timing for detecting the paper feed jam by paper sensor. (Paper OUT)	Adjusts the drum angle timing for detecting the paper feed jam by paper sensor. (Paper OUT)	
	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay detection timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay detection timing) Unit : 5 (0.5 degrees) Default : 0 (0 degree)	
0753	Paper receiving jam detection angle. (Paper IN)	Paper receiving jam detection angle. (Paper IN)	
	Adjusts the drum angle timing for detecting paper receiving jam by Paper ejection sensor. (Paper IN)	Adjusts the drum angle timing for detecting paper receiving jam by Paper ejection sensor. (Paper IN)	
	Range : -500 to +500 (-50.0 to +50.0 degrees) (+ values delay detection timing) Unit : 5 (0.5°) Default : 0 (0°)	Range : -500 to +500 (-50.0 to +50.0 degrees) (+ values delay detection timing) Unit : 5 (0.5°) Default : 0 (0°)	
0754	Paper receiving jam detection angle. (Paper OUT)	Paper receiving jam detection angle. (Paper OUT)	
	Adjusts the drum angle timing for detecting paper receiving jam by Paper ejection sensor. (Paper OUT)	Adjusts the drum angle timing for detecting paper receiving jam by Paper ejection sensor. (Paper OUT)	
	Range : -500 to +500 (-50.0 to +50.0 degrees) (+ values delay detection timing) Unit : 5 (0.5°) Default : 0 (0°)	Range : -500 to +500 (-50.0 to +50.0 degrees) (+ values delay detection timing) Unit : 5 (0.5°) Default : 0 (0°)	
0755	Paper ejection motor speed adjustment (Proof-Print)	Paper ejection motor speed adjustment (Proof-Print)	
	Adjusts the speed of the suction belt in relation to the Print drum speed in Proof Print printing.	Adjusts the speed of the suction belt in relation to the print drum speed.	
	Setting: 0 : 3.0 times the drum speed. 1 : 3.4 times the drum speed. <default> 2 : 3.7 times the drum speed. 3 : 4.0 times the drum speed. 4 : 4.5 times the drum speed.	Setting: 0 : 3.0 times the drum speed. 1 : 3.4 times the drum speed. <default> 2 : 3.7 times the drum speed. 3 : 4.0 times the drum speed. 4 : 4.5 times the drum speed.	
0756	Paper ejection motor speed adjustment (Print speed No.1)	Paper ejection motor speed adjustment (Print speed No.1)	
	Adjusts the speed of the suction belt in relation to the Print drum speed of 60 rpm.	Adjusts the speed of the suction belt in relation to the Print drum speed of 60 rpm.	
	Setting: 0 : 1.5 times the drum speed. 1 : 1.7 times the drum speed. <default> 2 : 1.8 times the drum speed. 3 : 1.9 times the drum speed. 4 : 2.0 times the drum speed.	Setting: 0 : 1.5 times the drum speed. 1 : 1.7 times the drum speed. <default> 2 : 1.8 times the drum speed. 3 : 1.9 times the drum speed. 4 : 2.0 times the drum speed.	
0757	Paper ejection motor speed adjustment (Print speed No.2)	Paper ejection motor speed adjustment (Print speed No.2)	
	Adjusts the speed of the suction belt in relation to the Print drum speed of 80 rpm.	Adjusts the speed of the suction belt in relation to the Print drum speed of 80 rpm.	
	Setting: 0 : 1.3 times the drum speed. 1 : 1.5 times the drum speed. <default> 2 : 1.6 times the drum speed. 3 : 1.7 times the drum speed. 4 : 1.8 times the drum speed.	Setting: 0 : 1.3 times the drum speed. 1 : 1.5 times the drum speed. <default> 2 : 1.6 times the drum speed. 3 : 1.7 times the drum speed. 4 : 1.8 times the drum speed.	

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
0758	Paper ejection motor speed adjustment (Print speed No.3)		Paper ejection motor speed adjustment (Print speed No.3)		
		Adjusts the speed of the suction belt in relation to the Print drum speed of 100 rpm.		Adjusts the speed of the suction belt in relation to the Print drum speed of 100 rpm.	
		Setting: 0 : 1.1 times the drum speed. 1 : 1.3 times the drum speed. 2 : 1.4 times the drum speed. 3 : 1.5 times the drum speed. <default> 4: 1.6 times the drum speed.		Setting: 0 : 1.1 times the drum speed. 1 : 1.3 times the drum speed. <default> 2 : 1.4 times the drum speed. 3 : 1.5 times the drum speed. 4: 1.6 times the drum speed.	
0759	Paper ejection motor speed adjustment (Print speed No.4)		Paper ejection motor speed adjustment (Print speed No.4)		
		Adjusts the speed of the suction belt in relation to the Print drum speed of 120 rpm.		Adjusts the speed of the suction belt in relation to the Print drum speed of 120 rpm.	
		Setting: 0 : 1.0 times the drum speed. 1 : 1.1 times the drum speed. <default> 2 : 1.2 times the drum speed. 3 : 1.3 times the drum speed. 4: 1.4 times the drum speed.		Setting: 0 : 1.0 times the drum speed. 1 : 1.1 times the drum speed. <default> 2 : 1.2 times the drum speed. 3 : 1.3 times the drum speed. 4: 1.4 times the drum speed.	
0760	Paper ejection motor speed adjustment (Print speed No.5)		Paper ejection motor speed adjustment (Print speed No.5)		
		Adjusts the speed of the suction belt in relation to the Print drum speed of 130 rpm.		Adjusts the speed of the suction belt in relation to the Print drum speed of 130 rpm.	
		Setting: 0 : 1.0 times the drum speed. 1 : 1.1 times the drum speed. 2 : 1.2 times the drum speed. <default> 3 : 1.3 times the drum speed. 4: 1.4 times the drum speed.		Setting: 0 : 1.0 times the drum speed. 1 : 1.1 times the drum speed. 2 : 1.2 times the drum speed. <default> 3 : 1.3 times the drum speed. 4: 1.4 times the drum speed.	
0761			Paper feed clutch ON angle (Paper type 1)		
				Adjusts the drum angle timing for the Paper feed clutch ON. (For user-mode paper type 1) This value is added to the adjustment value of Test Mode No.741.	
				Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)	
0762			Paper feed clutch OFF angle (Paper type 1)		
				Adjusts the drum angle timing for the Paper feed clutch OFF. (For user-mode paper type 1) This value is added to the adjustment value of Test Mode No.742.	
				Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)	

EZ5/EV5		EZ2/EV2 & EZ3/EV3
0763		[Not available on EZ2/EV2] Elevator upper limit position selection (Paper type 1)
		Selects the Paper feed tray upper limit position. (For user-mode paper type 1)
		Setting: 0: High (paper feed pressure is higher) 1: Middle (paper feed pressure is middle) <default> 2: Low (paper feed pressure is lower)
0764		Paper feed clutch ON angle (Paper type 2)
		Adjusts the drum angle timing for the Paper feed clutch ON. (For user-mode paper type 2) This value is added to the adjustment value of Test Mode No.741.
		Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)
0765		Paper feed clutch OFF angle (Paper type 2)
		Adjusts the drum angle timing for the Paper feed clutch OFF. (For user-mode paper type 2) This value is added to the adjustment value of Test Mode No.742.
		Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)
0766		[Not available on EZ2/EV2] Elevator upper limit position selection (Paper type 2)
		Selects the Paper feed tray upper limit position. (For user-mode paper type 2)
		Setting: 0 : High (paper feed pressure is higher) 1 : Middle (paper feed pressure is middle) <default> 2 : Low (paper feed pressure is lower)
0767		Paper feed clutch ON angle (Paper type 3)
		Adjusts the drum angle timing for the Paper feed clutch ON. (For user-mode paper type 3) This value is added to the adjustment value of Test Mode No.741.
		Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0768		Paper feed clutch OFF angle (Paper type 3)	
			Adjusts the drum angle timing for the Paper feed clutch OFF. (For user-mode paper type 3) This value is added to the adjustment value of Test Mode No.742.
			Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)
0769		[Not available on EZ2/EV2] Elevator upper limit position selection (Paper type 3)	
			Selects the Paper feed tray upper limit position. (For user-mode paper type 3)
			Setting: 0 : High (paper feed pressure is higher) 1 : Middle (paper feed pressure is middle) <default> 2 : Low (paper feed pressure is lower)
0770		Paper feed clutch ON angle (Paper type 4)	
			Adjusts the drum angle timing for the Paper feed clutch ON. (For user-mode paper type 4) This value is added to the adjustment value of Test Mode No.741.
			Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)
0771		Paper feed clutch OFF angle (Paper type 4)	
			Adjusts the drum angle timing for the Paper feed clutch OFF. (For user-mode paper type 4) This value is added to the adjustment value of Test Mode No.742.
			Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)
0772		[Not available on EZ2/EV2] Elevator upper limit position selection (Paper type 4)	
			Selects the Paper feed tray upper limit position. (For user-mode paper type 4)
			Setting: 0 : High (paper feed pressure is higher) 1 : Middle (paper feed pressure is middle) <default> 2 : Low (paper feed pressure is lower)

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0773		Paper feed clutch ON angle (Paper type 5)	
			Adjusts the drum angle timing for the Paper feed clutch ON. (For user-mode paper type 5) This value is added to the adjustment value of Test Mode No.741.
			Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay ON timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)
0774		Paper feed clutch OFF angle (Paper type 5)	
			Adjusts the drum angle timing for the Paper feed clutch OFF. (For user-mode paper type 5) This value is added to the adjustment value of Test Mode No.742.
			Range : -200 to +200 (-20.0 to +20.0 degrees) (+ values delay OFF timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)
0775		[Not available on EZ2/EV2]	
		Elevator upper limit position selection (Paper type 5)	
			Selects the Paper feed tray upper limit position. (For user-mode paper type 5) Setting: 0 : High (paper feed pressure is higher) 1 : Middle (paper feed pressure is middle) <default> 2 : Low (paper feed pressure is lower)
0779	Paper ejection wing position compensation		
		Compensates the amount of the Paper ejection wing movement.	
		Range : -20 to +20 (-20 pulses to +20 pulses) Unit : 1 (1 pulse) Default : 9 (9 pulses)	
0780	Paper ejection wing fixed-position selection		
		Fixes the paper-ejection wing position when custom position is selected by the operator. The adjusted position also applies to test mode No.0704.	
		Range : 0 to 2150 (0 pulse to 2150 pulses) Unit : 1 (1 pulse) Default : 1434 (1434 pulses)	
0788	Paper feeder Active/Inactive selection		Paper feeder Active/Inactive selection
		Allows master making and printing action without Paper feed tray movement. The selected setting is not stored. The setting returns to the default once the machine goes out of test mode.	Allows master making and printing action without Paper feed tray movement. The selected setting is not stored. The setting returns to the default once the machine goes out of test mode.
		Setting: 0 : Inactive <default> 1 : Active	Setting: 0 : Inactive <default> 1 : Active

7. Print Drum / Printing Test Mode

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No.	Sensor & Switch Check				
0801	Position-B sensor		Position-B sensor		
		ON: Sensor blocked (Machine is at Position-B)		ON: Sensor blocked (Machine is at Position-B)	
0802	Main motor FG sensor		Main motor FG sensor		
		ON: Detecting the FG disc.		ON: Detecting the FG disc.	
0803	Clamp sensor A		Clamp sensor A		
		ON: Sensor light blocked.		ON: Sensor light blocked.	
0804	Clamp sensor B		Clamp sensor B		
		ON: Sensor light blocked.		ON: Sensor light blocked.	
0806	Master loading sensor		Master loading sensor		
		ON: Detecting master		ON: Detecting master	
0807	Print drum lock sensor		Print drum lock sensor		
		ON: Drum lock lever is at lock position.)		ON: Drum lock lever is at lock position.)	
0809	Ink sensor		Ink sensor		
		ON: Detecting ink		ON: Detecting ink	
0810	Overflow sensor		Overflow sensor		
		ON: Detecting ink		ON: Detecting ink	
0811	Ink bottle set switch		Ink bottle set switch		
		ON: Switch is pressed		ON: Switch is pressed	
0812	Inking motor FG sensor		Inking motor FG sensor		
		ON: Detecting FG disc		ON: Detecting FG disc	
0816	Drum free rotation button		Drum free rotation button		
		ON: Button (switch) is pressed		ON: Button (switch) is pressed	
0817	Front door set sensor		Front door set sensor		
		ON: Front door is closed		ON: Front door is closed	
0818	Print drum release button		Print drum release button		
		ON: Button is pressed		ON: Button is pressed	
0819	Print drum connection signal		Print drum connection signal		
		ON: Print drum is connected		ON: Print drum is connected	
0820	Drum safety switch		Drum safety switch		
		ON: Print drum is set in position (switch pressed).		ON: Print drum is set in position (switch pressed).	
0830	Pressure HP sensor		Pressure HP sensor		
		ON: Sensor light blocked.		ON: Sensor light blocked.	
0831	Vertical print positioning HP sensor		Vertical print positioning HP sensor		
		ON: Sensor light blocked.		ON: Sensor light blocked.	
No.	Motor & Solenoid				
0861	Main motor action (30 rpm)		Main motor action (30 rpm)		
		Print drum rotation at speed of 30rpm.		Print drum rotation at speed of 30rpm.	
0863	Clamp motor action (Normal direction)		Clamp motor action (Normal direction)		
		Rotates the Clamp motor in counter-clockwise direction		Rotates the Clamp motor in counter-clockwise direction	
0864	Clamp-motor action (Opposite direction)		Clamp-motor action (Opposite direction)		
		Rotates the Clamp motor in clockwise direction		Rotates the Clamp motor in clockwise direction	
0866	Print-drum release button LED		Print-drum release button LED		
		Illuminates the LED		Illuminates the LED	
No.	Unit Check				
0880	Print drum rotation (variable speed)		Print drum rotation (variable speed)		
		Rotates the Print drum at the speed selected by the printing speed key. 1=60rpm / 2=80rpm / 3=100rpm / 4=120rpm / 5=130rpm		Rotates the Print drum at the speed selected by the printing speed key. 1=60rpm / 2=80rpm / 3=100rpm / 4=120rpm / 5=130rpm	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0881	Print drum stop at Position-A	Print drum stop at Position-A	
	Rotates and stops the Print drum at Position-A.	Rotates and stops the Print drum at Position-A.	
0882	Inking motor ON action	Inking motor ON action	
	Activates the Inking motor (maximum 10 seconds). Caution: This test mode is to check the IC driver. Disconnect the connector to the Inking motor before the activation. Otherwise the machine will be damaged.	Activates the Inking motor (maximum 10 seconds). Caution: This test mode is to check the IC driver. Disconnect the connector to the Inking motor before the activation. Otherwise the machine will be damaged.	
0883	Clamp home positioning action	Clamp home positioning action	
	Resets the clamp unit to the home position.	Resets the clamp unit to the home position.	
0884	Clamp unit cycle action (3 step cycle)	Clamp unit cycle action (3 step cycle)	
	Make sure to bring the print drum to Position-A by test mode No. 0881 before activating this test mode to prevent machine damage. Press START key each time to perform the operations specified below. Step 1: From clamp plate closed position to clamp open. Step 2: From Clamp open position to Position-A compensation action. Step 3: From Position-A compensation action to clamp closed position.	Make sure to bring the print drum to Position-A by test mode No. 0881 before activating this test mode to prevent machine damage. Press START key each time to perform the operations specified below. Step 1: From clamp plate closed position to clamp open. Step 2: From Clamp open position to Position-A compensation action. Step 3: From Position-A compensation action to clamp closed position.	
0885	Print drum lock solenoid ON/OFF action	Print drum lock solenoid ON/OFF action	
	Press START key to switch ON the drum lock solenoid. The solenoid switches OFF automatically 10 seconds later.	Press START key to switch ON the drum lock solenoid. The solenoid switches OFF automatically 10 seconds later.	
0886	Pressure solenoid ON/OFF action.	Pressure solenoid ON/OFF action.	
	Press START key to switch ON the pressure solenoid. The solenoid switches OFF automatically 10 seconds later.	Press START key to switch ON the pressure solenoid. The solenoid switches OFF automatically 10 seconds later.	
0887	Print drum inking action	Print drum inking action	
	Performs the inking operations in following sequence by one press of the START key: 1. Pumps in the ink into print drum while rotating the drum until the Ink Sensor detects Ink, without pressure roller touching the Print drum. 2. Makes a confidential master on the Print drum. 3. Rotates the Print drum with the Pressure Roller pressing against the print drum. 4. The print drum stops at Position-B.	Performs the inking operations in following sequence by one press of the START key: 1. Pumps in the ink into print drum while rotating the drum until the Ink Sensor detects Ink, without pressure roller touching the Print drum. 2. Makes a confidential master on the Print drum. 3. Rotates the Print drum with the Pressure Roller pressing against the print drum. 4. The print drum stops at Position-B.	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0888	Print drum ink-drainage action	Print drum ink-drainage action	
	<p>Performs the ink drainage from the print drum in following sequence by one press of the START key:</p> <ol style="list-style-type: none"> 1. Makes TPH test mode image on the master and wraps around the print drum. 2. Printing is started with no inking motion and with the ink sensor deactivated. 3. The printing is continued until the STOP key is pressed. 4. The print drum stops at Position-B. 	<p>Performs the ink drainage from the print drum in following sequence by one press of the START key:</p> <ol style="list-style-type: none"> 1. Makes TPH test mode image on the master and wraps around the print drum. 2. Printing is started with no inking motion and with the ink sensor deactivated. 3. The printing is continued until the STOP key is pressed. 4. The print drum stops at Position-B. 	
0889	G-Lever mounting position	G-Lever mounting position	
	<p>Stops the machine at G-Lever mounting position (Print drum at 108.4 degrees from Position-A).</p> <p>* This is the test mode to activate when mounting the removed G-Lever back on the machine.</p>	<p>Stops the machine at G-Lever mounting position (Print drum at 108.4 degrees from Position-A).</p> <p>* This is the test mode to activate when mounting the removed G-Lever back on the machine.</p>	
0890	Print drum ink-code copy	Print drum ink-code copy	
	<p>Copies the ink information (ink color, ink category, etc.) onto the Print drum EEPROM from the Ink TAG.</p> <p>* Wait over 2 seconds after inserting the ink bottle in the Print drum before executing the test mode.</p>	<p>Copies the ink information (ink color, ink category, etc.) onto the Print drum EEPROM from the Ink TAG.</p> <p>* Wait over 2 seconds after inserting the ink bottle in the Print drum before executing the test mode.</p>	
0892	Position-B stop (The position in which the pint drum can be removed from the machine.)	Position-B stop (The position in which the pint drum can be removed from the machine.)	
	<p>Stops the print drum at machine Position-B. (The test mode can be activated with or without print drum in the machine.)</p>	<p>Stops the print drum at machine Position-B. (The test mode can be activated with or without print drum in the machine.)</p>	
0896	Print drum free-rotation		
	<p>Print drum rotates at 10rpm.</p> <p>Rear cover safety switch must be ON to activate. Buzzer sounds until the Rear cover safety switch becomes ON.</p>		
0900	Vertical print position home positioning	Vertical print position home positioning	
	Moves the vertical print position to home position.	Moves the vertical print position to home position.	
0901	Vertical print position one cycle action.	Vertical print position one cycle action.	
	<p>Following one-cycle action is made by driving the Vertical print positioning pulse motor..</p> <ol style="list-style-type: none"> 1. Brings the vertical print position to home position. 2. Moves the vertical print position to maximum top position (+16mm) and stops for 1 second. 3. Brings the vertical print position to home position. 4. Moves the vertical print position to maximum down position (-16mm) and stop for 1 second. 5. Brings the vertical print position to home position. 	<p>Following one-cycle action is made by driving the Vertical print positioning pulse motor..</p> <ol style="list-style-type: none"> 1. Brings the vertical print position to home position. 2. Moves the vertical print position to maximum top position (+16mm) and stops for 1 second. 3. Brings the vertical print position to home position. 4. Moves the vertical print position to maximum down position (-16mm) and stop for 1 second. 5. Brings the vertical print position to home position. 	

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
0904	Printing pressure home positioning.		Print pressure home positioning.		
		Brings the printing pressure to the center position.		Brings the printing pressure to the center position.	
0905	Printing pressure 1 cycle action		Printing pressure 1 cycle action		
		Following one-cycle action is made by driving the Pressure control pulse motor. 1. Brings the printing pressure to home position. 2. Change the printing pressure to the maximum pressure position (+10500 pulses) and stops for 1 second. 3. Brings the printing pressure to home position. 4. Change the printing pressure to the minimum pressure position (-9300 pulses) and stops for 1 second. 5. Brings the printing pressure to home position.		[Not available on EZ2/EV2] Following one-cycle action is made by driving the Pressure control pulse motor. 1. Brings the printing pressure to home position. 2. Change the printing pressure to the maximum pressure position (+10500 pulses) and stops for 1 second. 3. Brings the printing pressure to home position. 4. Change the printing pressure to the minimum pressure position (-9300 pulses) and stops for 1 second. 5. Brings the printing pressure to home position.	
0908	Printing pressure maintenance positioning.		Printing pressure maintenance positioning.		
		Drives the Pressure control pulse motor -8130 pulses to release the pressure on the Pressure spring. This is the position to remove the Pressure spring.		[Not available on EZ2/EV2] Drives the Pressure control pulse motor -8130 pulses to release the pressure on the Pressure spring. This is the position to remove the Pressure spring.	
No.	Data Check				
0921	Print drum angle display		Print drum angle display		
		Displays the present print-drum angle. (example: 3600 = 360 degrees)		Displays the present print-drum angle. (example: 3600 = 360 degrees)	
0923	Print drum ink temperature display (Degrees Celsius)		Print drum ink temperature display (Degrees Celsius)		
		Displays the temperature of the ink in the print drum in degrees Celsius.		Displays the temperature of the ink in the print drum in degrees Celsius.	
0925	Ink remaining volume display		Ink remaining volume display		
		Displays the amount of ink left in the ink tube in percentage (%). [Ink TAG information]		Displays the amount of ink left in the ink tube in percentage (%). [Ink TAG information]	
0926	Inking motor FG count		Inking motor FG count (ten-thousand digit)		
		Displays the inking motor FG count value read from the ink cartridge tag. (1 count = 0.1 ml)		Displays the inking motor FG count value read from the ink cartridge tag to the ten-thousand digit. (1 count = 0.1 ml) Example: 23,546 count will display as 0002.	
0927			Inking motor FG count (up to thousand digit)		
				Displays the inking motor FG count value read from the ink cartridge tag up to thousand digit. (1 count = 0.1 ml) Example: 23,546 count will display as 3546.	
0928	Displays the Ink cartridge using start date.		Displays the Ink cartridge using start date.		
		Displays the Ink usage starting date. Example: For year 2007 December 28th, the display indicates 2007 and 1228 alternately.]		Displays the Ink usage starting date. Example: For year 2007 December 28th, the display indicates 2007 and 1228 alternately.]	
No.	Data Setting				
0940	Master loading sensor detection timing adjustment		Master loading sensor detection timing adjustment		
		Adjusts the angle to detect master on the print drum by master loading sensor.		Adjusts the angle to detect master on the print drum by master loading sensor.	
		Range : -200 to +100 (-20.0 to +10.0 degrees) (+ delays the detection timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)		Range : -200 to +100 (-20.0 to +10.0 degrees) (+ delays the detection timing) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0941	Print drum Position-A adjustment	Print drum Position-A adjustment	
	Adjusts the print-drum Position-A stop position.	Adjusts the print-drum Position-A stop position.	
	Range : -40 to +40 (-4.0 to +4.0 degrees) (+ moves drum forward in over-run direction) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)	Range : -40 to +40 (-4.0 to +4.0 degrees) (+ moves drum forward in over-run direction) Unit : 5 (0.5 degrees) Default : 0 (0 degrees)	
0942	Print drum Position-B adjustment	Print drum Position-B adjustment	
	Adjusts the print-drum Position-B stop position.	Adjusts the print-drum Position-B stop position.	
	Range : -40 to +40 (-4.0 to +4.0 degrees) (+ moves drum forward in over-run direction) Unit : 5 (0.5 degrees) Default : -15 (-1.5 degrees)	Range : -40 to +40 (-4.0 to +4.0 degrees) (+ moves drum forward in over-run direction) Unit : 5 (0.5 degrees) Default : -15 (-1.5 degrees)	
0943	Inking time adjustment (when over X% of ink is consumed from the ink tube.)	Inking time adjustment (when over X% of ink is consumed from the ink tube.)	
	Timer setting before the Replace Ink Cartridge message comes up (when the ink consumption amount from the tube is over X%, which is set by test mode No.0948).	Timer setting before the Replace Ink Cartridge message comes up (when the ink consumption amount from the tube is over X%, which is set by test mode No.0948).	
	Range : 5 to 60 (5 to 60 seconds) Unit : 1 (1 second) Default : 10 (10 seconds)	Range : 5 to 60 (5 to 60 seconds) Unit : 1 (1 second) Default : 10 (10 seconds)	
0944	Inking time adjustment (right after the ink tube is replaced)	Inking time adjustment (right after the ink tube is replaced)	
	Timer setting before the Replace Ink Cartridge message comes up (right after empty ink tube is replaced with a new one.)	Timer setting before the Replace Ink Cartridge message comes up (right after empty ink tube is replaced with a new one.)	
	Range : 5 to 60 (5 to 60 seconds) Unit : 1 (1 second) Default : 30 (30 seconds)	Range : 5 to 60 (5 to 60 seconds) Unit : 1 (1 second) Default : 30 (30 seconds)	
0945	Ink overflow detection frequency adjustment	Ink overflow detection frequency adjustment	
	Sets the number of detection times for the Overflow sensor to determine that an ink overflow has occurred in the Print drum.	Sets the number of detection times for the Overflow sensor to determine that an ink overflow has occurred in the Print drum.	
	Range : 1 to 200 (1 to 200 times) Unit : 1 (1 time) Default : 50 (50 times)	Range : 1 to 100 (1 to 100 times) Unit : 1 (1 time) Default : 50 (50 times)	
0946	Inking time adjustment (when under X% of ink is consumed from the ink tube.)	Inking time adjustment (when under X% of ink is consumed from the ink tube.)	
	Timer setting before the Replace Ink Cartridge message comes up (when the ink consumption amount from the tube is under X%, which is set by test mode No.0948).	Timer setting before the Replace Ink Cartridge message comes up (when the ink consumption amount from the tube is under X%, which is set by test mode No.0948).	
	Range : 1 to 60 (1 to 60 seconds) Unit : 1 (1 second) Default : 15 (15 seconds)	Range : 1 to 60 (1 to 60 seconds) Unit : 1 (1 second) Default : 15 (15 seconds)	
0947	Inking drum rotation quantity (while inking) after ink tube is pulled out and put back.	Inking drum rotation quantity (while inking) after ink tube is pulled out and put back.	
	Drum rotation quantity while inking after the ink tube is pulled out and put back.	Drum rotation quantity while inking after the ink tube is pulled out and put back.	
	Range : 0 to 10 (0 to 10 rotations) Unit : 1 (1 rotation) Default : 1 (1 rotation)	Range : 0 to 10 (0 to 10 rotations) Unit : 1 (1 rotation) Default : 1 (1 rotation)	

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
0948	Selection of X% for test modes No. 0943 and 0946.		Selection of X% for test modes No. 0943 and 0946.		
		The X% selection relates to that of test modes No. 0943 and 0946.		The X% selection relates to that of test modes No. 0943 and 0946.	
		Range: 1 to 100 (1 to 100%) Unit : 1 (1%) Default : 80 (80%)		Range: 1 to 100 (1 to 100%) Unit : 1 (1%) Default : 80 (80%)	
0949	Print pressure setting for Proof-read printing (Black Ink)		Print pressure setting for Proof-read printing (Black Ink)		
		Selects print pressure for printing the proof-read print after each master-making. (Black Ink)		[Not available on EZ2/EV2] Selects print pressure for printing the proof-read print after each master-making. (Black Ink)	
		Setting: 0 : extra light 1 : light <default> 2 : normal 3 : dark 4 : extra dark		Setting: 0 : extra light 1 : light 2 : normal <default> 3 : dark 4 : extra dark	
0950	Print pressure setting for Proof-read printing (color ink)		Print pressure setting for Proof-read printing (color ink)		
		Selects print pressure for printing the proof-read print after each master-making. (Color Ink)		[Not available on EZ2/EV2] Selects print pressure for printing the proof-read print after each master-making. (Color Ink)	
		Setting: 0 : extra light 1 : light 2 : normal <default> 3 : dark 4 : extra dark		Setting: 0 : extra light 1 : light 2 : normal <default> 3 : dark 4 : extra dark	
0951	Ink color code				
		Ink color code setting on inkless print drum.			
		Setting: 0 : No Selection (default) 64: Black 1 65: Blue 1 66: Blue 2 67: Blue 3 68: Blue 4 69: Red 1 70: Red 2 71: Red 3 72: Red 4 73: Green 1 74: Green 2 75: Green 3 76: Yellow 1 77: Yellow 2 78: Brown 1 79: Brown 2 80: Purple 1 81: Purple 2 82: Grey 1 83: Grey 2 84: Light grey 1 85: Light grey 2 86: Orange 1 87: Orange 2 88: Gold 1 89: Gold 2 90: Silver 1 91: Silver 2 92: Pink 1 93: Pink 2 94: Custom			
0970	Vertical print position HP adjustment		Vertical print position HP adjustment		
		Sets the HP (center) position of the vertical print position.		Sets the HP (center) position of the vertical print position.	
		Range : -50 to +50 (-5.0 mm to +5.0 mm) (+ values move the printed image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)		Range : -50 to +50 (-5.0 mm to +5.0 mm) (+ values move the printed image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
0972	Printing pressure HP adjustment	Printing pressure HP adjustment	
	Offsets the HP (center) position of the printing pressure.	[Not available on EZ2/EV2] Offsets the HP (center) position of the printing pressure.	
	Range : -500 to +500 (-5000 pulses to + 5000 pulses) (+ values move print pressure table up -- increases print pressure) Unit : 1 (10 pulses) Default : 0 (0 pulse)	Range : -500 to +500 (-5000 pulses to + 5000 pulses) (+ values move print pressure table up -- increases print pressure) Unit : 1 (10 pulses) Default : 0 (0 pulse)	

8. Protected Area Test Mode

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No.	Unit Check				
1102	Paper size VR adjustment		Paper size VR adjustment		
		Sets a VR value at paper guide fence width of 105 mm (A6 paper width).		Sets a VR value at paper guide fence width of 105 mm (A6 paper width).	
1103	Paper size VR adjustment		Paper size VR adjustment		
		Sets a VR value at paper guide fence width of 297 mm (A3 paper width).		Sets a VR value at paper guide fence width of 297 mm (A3 paper width).	
1104	LCD Base Point Compensation				
		Perform the following adjustment in the order given. 1) Touch two diagonally opposite markings. 2) On the confirmation display, touch the three marking to confirm the adjustment.			
No.	Data Clear				
1198	Memory Initialization		Memory Initialization		
		Initializes the memory on the Mechanical Control PCB. (This test mode is not included in the test mode list on the display.)		Initializes the memory on the Mechanical Control PCB. (This test mode is not included in the test mode list on the display.)	
No.	Data Setting				
1201	Paper Size Selection		Paper Size Selection		
		Selects the paper size detection unit in either INCH, MILLIMETER or CHINESE.		Selects the paper size detection unit in either INCH, MILLIMETER or CHINESE.	
		Setting: 0 : Millimeter <default on all machines other than Chinese or USA specification> 1 : Chinese paper sizes <default on Chinese specification machines> 2 : Inch <default on USA specification machines>		Setting: 0 : Millimeter <default on all machines other than Chinese or USA specification> 1 : Chinese paper sizes <default on Chinese specification machines> 2 : Inch <default on USA specification machines>	
1210	Drum Code Entry		Drum Code Entry		
		Sets the print drum information on the EEPROM of the Drum PCB.		Sets the print drum information on the EEPROM of the Drum PCB.	
		Range : 0 to 255 Setting: 113: A3 114: B4 115: A4 / Letter 116: A4-R / Letter-R 117: Ledger Default : 0		Range : 0 to 255 Setting: [EZ2/EV2 Series] 98: B4 99: A4 / Letter 102: Legal / Foolscap [EZ3/EV3 Series] 113: A3 114: B4 115: A4 / Letter 117: Ledger Default : 0	
1211	Drum Serial Code Entry 1		Drum Serial Code Entry 1		
		Inputs the first 4 -digits of the print drum serial number		Inputs the first 4 -digits of the print drum serial number	
		Range : 0 to 9999 Unit : 1 Default : 0		Range : 0 to 9999 Unit : 1 Default : 0	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
1212	Drum Serial Code Entry 2	Drum Serial Code Entry 2	
	Inputs the last 4 -digits of the print drum serial number	Inputs the last 4 -digits of the print drum serial number	
	Range : 0 to 9999 Unit : 1 Default : 0	Range : 0 to 9999 Unit : 1 Default : 0	
1214	Drum Color Code Entry	Drum Color Code Entry	
	Sets the print drum color information on the EEPROM of the Drum PCB.	Sets the print drum color information on the EEPROM of the Drum PCB.	
	Setting: 0: Not Specified <default> 1: Black 2: Blue 3: Medium Blue 4: Red 5: Bright Red 6: Riso Federal Blue 7: Purple 8: Riso Marine Red 9: Burgundy 10: Green 11: Teal 12: Brown 13: Yellow 14: Light Grey 15: Grey 16: Fluorescence Pink 17: Fluorescence Orange 18: Orange 19: Flat Gold 20: Hunter Green 21: Crimson 30: Custom 31: Order (with specified paper) 32: Order (without specified paper) 63: Any Color	Setting: 0: Not Specified <default> 1: Black 2: Blue 3: Medium Blue 4: Red 5: Bright Red 6: Riso Federal Blue 7: Purple 8: Riso Marine Red 9: Burgundy 10: Green 11: Teal 12: Brown 13: Yellow 14: Light Grey 15: Grey 16: Fluorescence Pink 17: Fluorescence Orange 18: Orange 19: Flat Gold 20: Hunter Green 21: Crimson 30: Custom 31: Order (with specified paper) 32: Order (without specified paper) 63: Any Color	
1220	Scanner Adjustment (1) Vertical scan skip amount adjustment. (Factory adjustment)	Scanner Adjustment (1) Vertical scan skip amount adjustment. (Factory adjustment)	
	Adjusts the vertical scanning skip amount. (Factory adjustment)	Adjusts the vertical scanning skip amount. (Factory adjustment)	
	Range : 0 to 255 (-3mm to +3mm) (+ values increase the scan skip amount) Unit : 1 (0.0508mm) Default : 128	Range : 68 to 188 (-3mm to +3mm) (+ values increase the scan skip amount) Unit : 1 (0.0508mm) Default : 128	
1221	Scanner Adjustment (2) Horizontal scan position adjustment. (Factory adjustment)	Scanner Adjustment (2) Horizontal scan position adjustment. (Factory adjustment)	
	Adjusts the horizontal scanning position. (Factory adjustment)	Adjusts the horizontal scanning position. (Factory adjustment)	
	Range : 0 to 255 (-3mm to +3mm) (+ values move the scanning position to the right --- printed image shifts to left.) Unit : 1 (0.0423mm for 600 dpi) Default : 128	Range : 92 to 164 (-3mm to +3mm) (+ values move the scanning position to the right --- printed image shifts to left.) Unit : 1 (0.0847mm for 300 dpi) Default : 128	

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
1222	Scanner Adjustment (3) Vertical image elongation/shrinkage adjustment. (Factory adjustment)	Scanner Adjustment (3) Vertical image elongation/shrinkage adjustment. (Factory adjustment)	
	Adjusts the vertical image elongation/shrinkage. (Factory adjustment)	Adjusts the vertical image elongation/shrinkage. (Factory adjustment)	
	Range : 0 to 100 (-5% to +5%) (+ values shrinks the image) Unit : 1 (0.1%) Default : 50	Range : 0 to 100 (-5% to +5%) (+ values shrinks the image) Unit : 1 (0.1%) Default : 50	
1223	Scanner Adjustment (4) Offset adjustment. (Factory adjustment)	Scanner Adjustment (4) Offset adjustment. (Factory adjustment)	
	Offset adjustment of the scanner. (Factory adjustment)	Offset adjustment of the scanner. (Factory adjustment)	
	Range : -255 to 255 Unit : 1 Default : -255 Note: The input number changes to another number after the test mode is reactivated. Use the newly displayed value from the next Offset adjustment for that one particular scanner unit.	Range : -255 to 255 Unit : 1 Default : -255 Note: The input number changes to another number after the test mode is reactivated. Use the newly displayed value from the next Offset adjustment for that one particular scanner unit.	
1224	Scanner Adjustment (5) Gain adjustment. (Factory adjustment)	Scanner Adjustment (5) Gain adjustment. (Factory adjustment)	
	Gain adjustment of the scanner. (Factory adjustment)	Gain adjustment of the scanner. (Factory adjustment)	
	Range : 0 to 64 Unit : 1 Default : 0 Note: The input number changes to another number after the test mode is reactivated. Use the newly displayed value from the next Gain adjustment for that one particular scanner unit.	Range : 0 to 64 Unit : 1 Default : 0 Note: The input number changes to another number after the test mode is reactivated. Use the newly displayed value from the next Gain adjustment for that one particular scanner unit.	
1229	RLP Activation/Deactivation	RLP Activation/Deactivation	
	Activates or deactivates the RLP function.	Activates or deactivates the RLP function.	
	Setting: 0 : Inactive <default> 1 : Active	Setting: 0 : Inactive <default> 1 : Active	
1231	Panel Contrast Adjustment		
	Adjusts the contrast of the operation panel display.		
	Range : -120 to +120 Unit : 1 Default : 0		
1232	Panel Back-light Adjustment		
	Adjusts the back-light of the operation panel display.		
	Range : 50 to 115 Unit : 1 Default : 85		

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
1233	TPH master-making horizontal position adjustment	TPH master-making horizontal position adjustment	
	Sets the TPH master-making position to the center	Sets the TPH master-making position to the center	
	Range : -30 to +30 (-3.0mm to +3.0mm) (+ values bring the master-making image to the left) Unit : 1 (0.1mm) Default : 0 (0mm)	Range : -30 to +30 (-3.0mm to +3.0mm) (+ values bring the master-making image to the left) Unit : 1 (0.1mm) Default : 0 (0mm)	
1234	TPH resistance input	TPH resistance input	
	Sets TPH resistance.	Sets TPH resistance.	
	Range : 1200 to 2300 (1200 to 2300 ohm) Unit : 1 (1 ohm) Default : 1200 (1200 ohm)	Range : 1200 to 2300 (1200 to 2300 ohm) Unit : 1 (1 ohm) Default : 1200 (1200 ohm)	

9. Options (AF) Test Mode

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No.	Sensor & Switch Check				
3000	AF-unit connection signal check		AF-unit connection signal check		
	ON: AF connected		ON: AF connected		
3001	AF Original registration sensor		AF Original registration sensor		
	ON: Original detected		ON: Original detected		
3002	AF Original IN sensor		AF Original IN sensor		
	ON: Original detected		ON: Original detected		
3003	AF Original OUT sensor		AF Original OUT sensor		
	ON: Original detected		ON: Original detected		
3004	AF original detection sensor		AF original detection sensor		
	ON: Original detected		ON: Original detected		
3005	AF Cover Set SW		AF Cover Set SW		
	ON: AF closed		ON: AF closed		
3006	AF Original Size Sensor 1				
	ON: Original detected				
3007	AF Original Size Sensor 2				
	ON: Original detected				
No.	Motor & Solenoid				
3030	AF read pulse-motor CW		AF read pulse-motor CW		
	Activates the AF read pulse-motor in original feeding direction.		Activates the AF read pulse-motor in original feeding direction.		
No.	Unit Check				
3041	AF one cycle action with no Auto Base Control		AF one cycle action with no Auto Base Control		
	Performs one AF scanning cycle. 1. Picks up original. 2. Scanner unit moves to home position. 3. Shading compensation. 4. Scanner unit moves to scanning position. 5. Feeds and ejects the original. 6. Carriage returns to the home position.		Performs one AF scanning cycle. 1. Picks up original. 2. Scanner unit moves to home position. 3. Shading compensation. 4. Scanner unit moves to scanning position. 5. Feeds and ejects the original. 6. Carriage returns to the home position.		
3042	AF original feed action		AF original feed action		
	Performs AF original feed operation		Performs AF original feed operation		
3044	Original IN Sensor Sensitivity Adjustment		Original IN Sensor Sensitivity Adjustment		
	Sensitivity adjustment on the Original IN Sensor.		Sensitivity adjustment on the Original IN Sensor.		
3045	AF Original Guide Minimum Width				
	Sets the VR value when the paper guides are brought to the minimum-width position.				
3046	AF Original Guide Maximum Width				
	Sets the VR value when the paper guides are brought to the maximum-width position.				
No.	Data Check				
3060	AF Guide width A/D data				
	AF Guide width AF 10 bit data.				
3061	AF Original Size Code				
	Displays the size of the original set on AF unit. 00: No detection 01: A3 02: B4 03: A4 04: A4-R 05: B5 06: B5-R 07: A5 08: A5-R 09: B6 11: Postcard 13: Ledger 14: Legal 15: Letter 16: Letter-R 17: Statement 18: Statement-R 19: Foolscap 53: Custom				

EZ5/EV5			EZ2/EV2 & EZ3/EV3		
No.	Data Setting				
3070	Mirror carriage scanning position adjustment. (AF scanning)		Mirror carriage scanning position adjustment. (AF scanning)		
		Adjusts the position of the mirror carriage for AF scanning.		Adjusts the position of the mirror carriage for AF scanning.	
		Range : -20 to +20 (-2.0mm to +2.0mm) (+ values move the Mirror carriage back --- moves the image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)		Range : -20 to +20 (-2.0mm to +2.0mm) (+ values move the Mirror carriage back --- moves the image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)	
3071	Mirror carriage position adjustment for Auto-Base-Control. (AF scanning)		Mirror carriage position adjustment for Auto-Base-Control. (AF scanning)		
		Adjusts the position of the mirror carriage for AF Auto Base Control scanning.		Adjusts the position of the mirror carriage for AF Auto Base Control scanning.	
		Range : 0 to +30 (0mm to +3.0mm) (+ values move the Mirror carriage back --- moves the image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)		Range : 0 to +30 (0mm to +3.0mm) (+ values move the Mirror carriage back --- moves the image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)	
3072	AF scanning horizontal centering position adjustment		AF scanning horizontal centering position adjustment		
		Adjusts the horizontal scanning position when the original is scanned on AF.		Adjusts the horizontal scanning position when the original is scanned on AF.	
		Range : -30 to +30 (-3.0mm to +3.0mm) (+ values move the image to the left) Unit : 5 (0.5 mm) Default : 0 (0 mm)		Range : -30 to +30 (-3.0mm to +3.0mm) (+ values move the image to the left) Unit : 5 (0.5 mm) Default : 0 (0 mm)	
3073	Scanning start-position adjustment. (AF scanning)		Scanning start-position adjustment. (AF scanning)		
		Adjusts the scanning start position against the original when the original is scanned using the AF. (Adjusts how much area to skip from the top of the original when the scanning starts.)		Adjusts the scanning start position against the original when the original is scanned using the AF. (Adjusts how much area to skip from the top of the original when the scanning starts.)	
		Range : -60 to +60 (-6.0mm to +6.0mm) (+ values move the image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)		Range : -60 to +60 (-6.0mm to +6.0mm) (+ values move the image up) Unit : 1 (0.1 mm) Default : 0 (0 mm)	
3074	Scanning-speed adjustment to control Elongation & Shrinkage in scanning. (AF scanning)		Scanning-speed adjustment to control Elongation & Shrinkage in scanning. (AF scanning)		
		Adjusts the speed of the AF-Read pulse motor to control the speed of the Original through the AF.		Adjusts the speed of the AF-Read pulse motor to control the speed of the Original through the AF.	
		Range : -50 to +50 (-5.0% to +5.0%) (+ values elongate the image) Unit : 1 (0.1%) Default : 0 (0 %)		Range : -50 to +50 (-5.0% to +5.0%) (+ values elongate the image) Unit : 1 (0.1%) Default : 0 (0 %)	
3076	AF Scanning End Signal Output Timing		AF Scanning End Signal Output Timing		
		Adjusts original scanning end position.		Adjusts original scanning end position.	
		Range: -63 to +63 (-6.3 mm to +6.3 mm) * (<+> for adjustment down) Unit: 1 (0.1 mm) Default: 0 (0 mm)		Range: -63 to +63 (-6.3 mm to +6.3 mm) * (<+> for adjustment down) Unit: 1 (0.1 mm) Default: 0 (0 mm)	

10. Options (Job Separator) Test Mode

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
No.	Sensor & Switch Check		
3100	Job separator tape jam sensor	Job separator tape jam sensor	
	ON: Jammed tape is detected	ON: Jammed tape is detected	
3101	Job separator tape detection sensor	Job separator tape detection sensor	
	ON: Tape is detected	ON: Tape is detected	
3102	Job separator power switch	Job separator power switch	
	ON: Power is supplied to the Job separator	ON: Power is supplied to the Job separator	
3103	Job separator connection signal	Job separator connection signal	
	ON: Job separator is connected	ON: Job separator is connected	
No.	Unit Check		
3140	Tape output (Job Separator)	Tape output (Job Separator)	
	Outputs one tape.	Outputs one tape.	
No.	Data Setting		
3170	Stamping quantity	Stamping quantity	
	Sets number of times the stamper stamps per one tape cut by test mode No. 3140.	Sets number of times the stamper stamps per one tape cut by test mode No. 3140.	
	0: No stamping <default> 1: One stamping 2: Two stamping	0: No stamping <default> 1: One stamping 2: Two stamping	
3171	Activate or deactivate the tape jammed message	Activate or deactivate the tape jammed message	
	Activates or deactivates the Tape Jam message while using the Job Separator.	Activates or deactivates the Tape Jam message while using the Job Separator.	
	0: Does not show the jammed message. 1: Shows the jammed message. <default>	0: Does not show the jammed message. 1: Shows the jammed message. <default>	

11. Options (Memory) Test Mode

EZ5/EV5		EZ2/EV2 & EZ3/EV3	
No.	Unit Check		
3340	Storage Memory Composition Change		
		Processing for changing the card used on model RP to a configuration compatible with the current machine. CAUTION: 1) The card will no longer be RP compatible. 2) Insert only one card in the slot. Do not insert two cards.	
3341	PS7R Status Print		
		Prints out the PS7R status.	
No.	Data Clear		
3355	Storage Memory Initialize (32M)		
		Initializes the storage device to delete data from the 32M storage device or when an error related to storage device prevents data restoration. CAUTION: Insert only one card in the slot. Cannot initialize two cards at one time.	
3356	Storage Memory Initialize (128M)		
		Initializes the storage device to delete data from the 128M storage device or when an error related to storage device prevents data restoration. CAUTION: Insert only one card in the slot. Cannot initialize two cards at one time.	
No.	Data Check		
3361	Storage Memory Information		
		Displays the volume label, capacity, area used, and available storage area. CAUTION: Insert only one card in the slot. Cannot check two cards at one time.	

12. Options (Linked Printer) Test Mode

EZ5/EV5		EZ2/EV2 & EZ3/EV3
No.	Data Setting	
3570	Linked printer - Print position adjustment (horizontally)	
	Horizontal print position adjustment on all the linked printers. The setting applies to all the RLP.	
	Range : -50 to +50 (-5.0mm to +5.0mm) (+ values move the image to the left.) Unit : 1 (0.1 mm) Default : 0 (0 mm)	
3571	Linked printer - Print position adjustment (vertically)	
	Vertical print position adjustment on all the linked printers. The setting applies to all the RLP.	
	Range : -50 to +50 (-5.0mm to +5.0mm) (+ values move the image to the top.) Unit : 1 (0.1 mm) Default : 0 (0 mm)	
3572	Zero print master-making warning	
	With the printer-auto-selection activated, master-making will be made, but the selection can be made to display the warning message [F60] or not when the print quantity is selected as zero (0) in scanner mode.	
	0: No warning displayed. <default> 1: Warning displayed.	
3579	Link Duplex Print Auto-Repeat	
	The selection to keep the duplex printing mode activated or to deactivate the mode after the duplex print job is finished on a linked printer.	
	0: Deactivate 1: Keep activated <default>	

13. Options (Vender) Test Mode

EZ5/EV5		EZ2/EV2 & EZ3/EV3
No.	Data Setting	
3770	Vender Selection	
	(Japan market machine only) Selection between	
	coin vender or card vender.	
	0: Coin vender <default>	
	1: Card vender	

MEMO

CHAPTER 19: OTHER PRECAUTIONS

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1. Machine Setup During the Installation

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	0	X	X	0

Set-up Wizard

Set-up wizard is designed for enhancing customer satisfaction with his or her EZ5/EV5 unit, depending on the type of customer account.

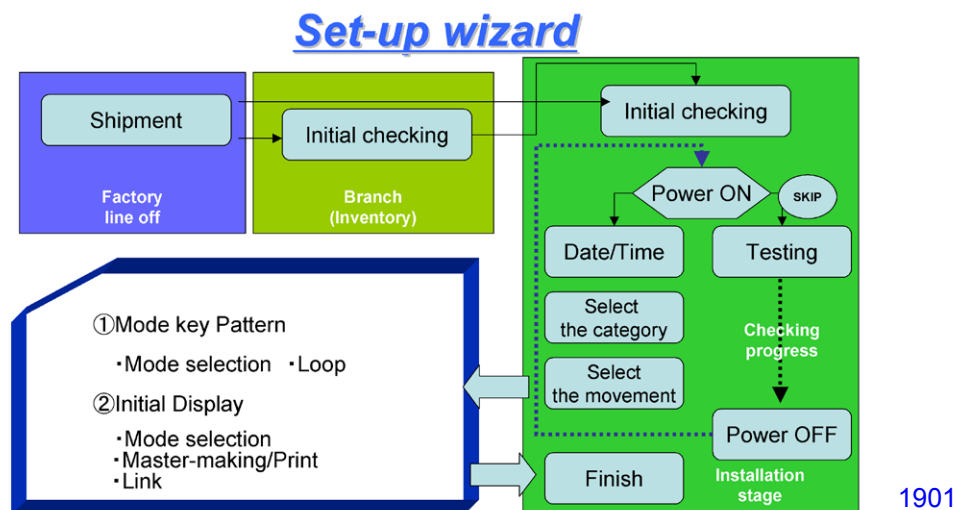
Until the Set-up wizard is completed at the time of the machine installation, the Set-up wizard display keeps popping up each time the machine power is turned ON.

Set-up wizard is deeply related in providing maximum functionality with the RISO i Quality System benefits.

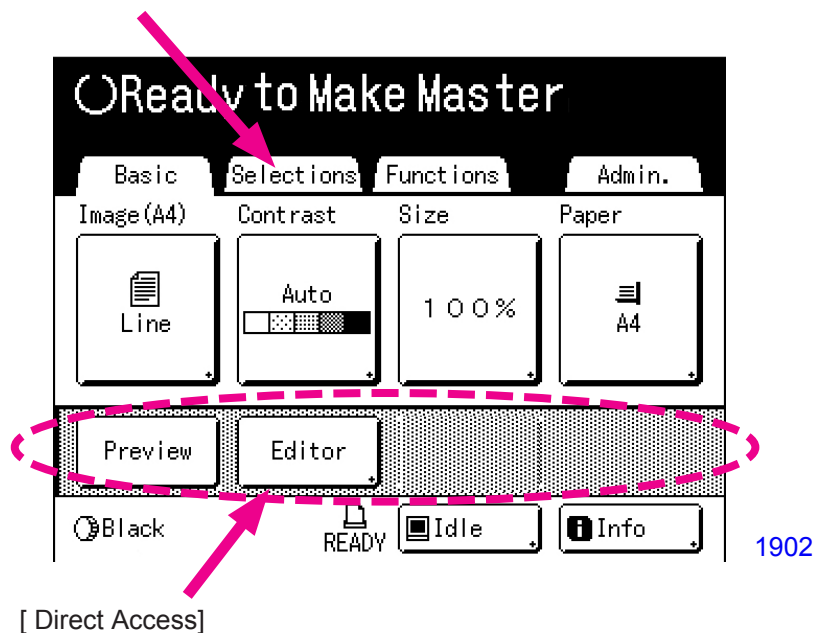
In order to take the maximum advantage of the RISO i Quality System, the [setting of the machine clock] is essential.

If the Set-up Wizard needs to be initialized (reset), use Test Mode No. 116 [Set-up Wizard Initialize].

Refer to the next page for the Set-up Wizard selections.



[Selections]



Set-up Wizard Selections

(The items included in each User Category may differ on the actual machine.)

Model EZ5 Series

(This is a sample chart. Actual items on the list may differ on the actual machine.)

User Category	Area Name	Master Making Basic Screen	Print Basic Screen	Link Basic Screen	Scan Basic Screen
STANDARD	DIRECT ACCESS	Dot Process Reservation Multi-Up Print Editor	Renew Page Reservation Interval Editor	Dot Process	Preview Dot Process Book Shadow
	SELECTIONS	Job Memory Confidential Idling Action Book Shadow Program	Job Memory Confidential Idling Action	Job Memory Book Shadow Preview	
SCHOOL	DIRECT ACCESS	Dot Process Reservation Multi-Up Print Book Shadow	Renew Page Reservation Interval Editor	Dot Process	Preview Dot Process Book Shadow
	SELECTIONS	Job Memory Confidential Idling Action Program Editor	Job Memory Confidential Idling Action	Job Memory Book Shadow Preview	
PRINT SHOP	DIRECT ACCESS	Dot Process Reservation Multi-Up Print	Renew Page Reservation Interval Editor	Dot Process	Preview Dot Process Book Shadow
	SELECTIONS	Job Memory Confidential Idling Action Book Shadow Top Margin Program Editor	Job Memory Confidential Idling Action	Job Memory Book Shadow Preview Top Margin	

1903EZ

Model EV5 Series

(This is a sample chart. Actual items on the list may differ on the actual machine.)

User Category	Area Name	Master Making Basic Screen	Print Basic Screen	Link Basic Screen	Scan Basic Screen
STANDARD	DIRECT ACCESS	Multi-Up Print	Renew Page	Book Shadow	Preview Book Shadow
	SELECTIONS	Job Memory Confidential Interval Book Shadow Contrast Adjustment	Job Memory Confidential Interval Book Shadow Contrast Adjustment	Job Memory Top Margin Dot Process Contrast Adjustment	
SCHOOL	DIRECT ACCESS	2 Up	Renew Page	Book Shadow	Preview Book Shadow
	SELECTIONS	Job Memory Confidential Interval Book Shadow Contrast Adjustment	Job Memory Confidential Interval Book Shadow Contrast Adjustment	Job Memory Top Margin Dot Process Contrast Adjustment	
LEAFLET	DIRECT ACCESS	2 Up	Renew Page		Preview Book Shadow
	SELECTIONS	Job Memory Confidential Book Shadow Ink Saving	Job Memory Confidential Book Shadow	Job Memory Top Margin Dot Process Contrast Adjustment	
PRINT SHOP	DIRECT ACCESS		Renew Page Interval	Book Shadow	Preview Book Shadow
	SELECTIONS	Confidential Contrast Adjustment Top Margin Side Margin	Confidential Contrast Adjustment Top Margin Side Margin	Job Memory Top Margin Dot Process Contrast Adjustment	

1903EV

2. Sales Test Mode

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	O

Easy access to change the machine settings by the Sales person and Field technical person.

Turn the machine power ON, while pressing the + key and x key on the Operation Panel.

The [Sales Test Mode] is essential in setting the machine to the best condition to suit each customer.

The activation of the Sales Test Mode helps troubleshooting the minor troubles on the machine. There are total of 27 items under the Sales Test Mode. The first 4 items, starting with P are linked to the Admin. (user mode), and the remaining 23 items are linked to the serviceman test mode. The [Sales Test Mode] is for the use by the Sales person and the Field technical person only, and is not intended for the customer (operator) use.

Code No.	Item
P001	Displayed Language
P002	Link-Free Volume
P003	Base IP Address
P004	Beep Sound
0080	Test Print A
0095	System Configuration Data Output
0110	Clear Error Status Data
0116	Set-up Wizard Initialize
0126	Optional Configuration Check
0146	Quick Scanning Selection
0150	Print Quantity Repeat Setting
0154	Min. Print Quantity Control
0159	Warning Display Control
0160	Auto Multi-Up Recovery
0161	Program Print Repeat Setting
0166	Max. Print Quantity Control
0167	Paper ID Auto-Repeat Control
0168	Fine Adjustment Button Display Control
0169	Admin. Display Control
0170	Consumable Storage Indication
0199	Software Option Enable Control
0951	Ink Color Code
0977	Vertical and Horizontal Motion Distance Switching
1201	Standard of Measurement Unit Selection
1229	RLP Mode Enable Control
3572	Zero Print Master Making Warning
3579	Link Duplex Print Auto-Repeat

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MEMO

3. Firmware Downloading Procedure

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	X

EZ5

See the sketch and photographs on the next page for the reference to the instructions.

- (1) Switch OFF the machine power.
- (2) The firmware can be downloaded by using either a CF Card or USB Memory.

CF CARD:

Remove the Download slot cover from the side of the Rear cover, on the paper-feed side of the machine, by removing one screw (M3x6 screw; 1 pc).

Insert the downloading CF Card containing appropriate firmware for the Mechanical control PCB and NeoROSA PCB for the specific machine model.

USB MEMORY:

Insert the downloading USB Memory containing appropriate firmware for the Mechanical control PCB and NeoROSA PCB for the specific machine model onto the USB host connector on the machine.

- (3) Download the Firmware Programs
 - Normal case

Activate the Test Mode No. 90 (Firmware download) to proceed the firmware download.
 - Special case

If the firmware download fails, or stops by accidental power down, switch ON the machine power again while pressing the <WAKE UP> key. The firmware download re-starts again.
- (4) The Mechanical control PCB program will download first and NeoROSA PCB program downloads the next. The two firmware programs downloads automatically, one after the other.
- (5) The downloading result can be checked by looking at the three LED status. The three LEDs are found at the entrance of the CF Card inserting slot on the NeoROSA PCB.
The three LEDs are: LED1 (green), LED2 (green) and LED3 (red).

[Normal Downloading Condition]

1. During the Mechanical control PCB firmware program downloading:
LED2 blinks and LED1 and LED3 are OFF.
2. During the NeoROSA PCB firmware program downloading:
LED1 blinks, LED2 lights and LED3 is OFF.
3. At the completion of the two firmware program downloading:
LED1 and LED2 light and LED3 is OFF.

[Abnormal Downloading Condition]

1. During the Mechanical control PCB firmware program downloading:
LED1 and LED2 show error status and LED3 blinks.
2. During the NeoROSA PCB firmware program downloading:
LED1 and LED2 show error status and LED3 lights.

The abnormal (error) status of the three LEDs are described on Page 19-13.

- (6) Remove either the CF Card or USB Memory in following procedure.

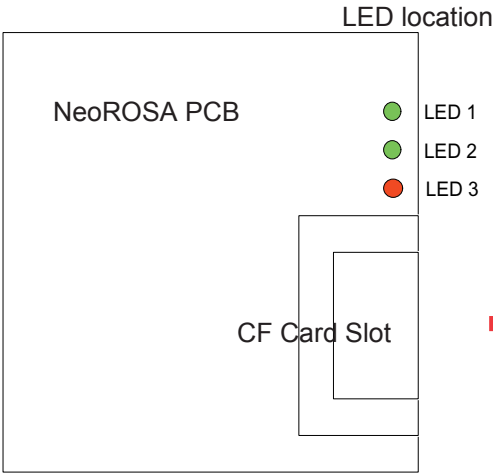
CF Card: Turn OFF the machine power, remove the CF Card and mount the Download slot cover back on the Rear cover of the machine.

USB Memory: Unplug the USB memory from the USB slot on the machine.

CAUTION:

If either the CF Card or USB Memory contained the same firmware program versions to those already in the two PCBs, the firmware downloading action will not take place. The LED1 and LED2 stay OFF and LED3 blinks. In this case, remove either the CF Card (turn OFF the machine power first) or USB Memory from the machine. The machine will operate with the existing firmware program.

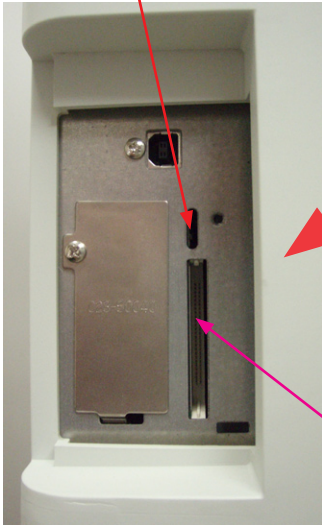
EZ5 < NeoROSA PCB >



Opening for LED status checking



1905

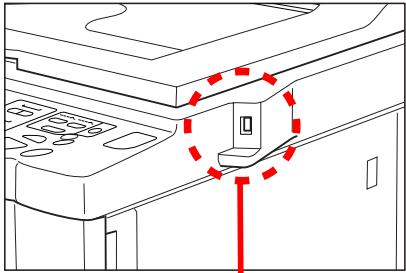


1906



1914

USB Host Connector



1922



1923

EZ2 & EZ3

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	X	X	X	X

See the sketch and photographs on the next page for the reference to the instructions.

- (1) Switch OFF the machine power.
- (2) Remove the Download slot cover from the side of the Rear cover, on the paper-feed side of the machine, by removing one screw (M3x6 screw; 1 pc).
- (3) Insert the downloading CF Card containing appropriate firmware for the Mechanical control PCB for the specific machine model.

- (4) Download the Firmware Programs

- Normal case

Activate the Test Mode No. 90 (Firmware download) to proceed the firmware download.

- Special case

If the firmware download fails, or stops by accidental power down, switch ON the machine power again while pressing the <WAKE UP> key. The firmware download re-starts again.

- (5) The downloading result can be checked by looking at the three LED status. The three LEDs are found at the entrance of the CF Card inserting slot on the Mechanical control PCB.

The three LEDs are: LED1 (red), LED2 (green) and LED3 (green).

[Normal Downloading Condition]

1. During the Mechanical control PCB firmware program downloading:

LED2 blinks and LED1 and LED3 are OFF.

2. At the completion of the firmware program downloading:

LED2 lights and LED1 and LED3 are OFF.

[Abnormal Downloading Condition]

1. During the Mechanical control PCB firmware program downloading:

LED2 and LED3 show error status and LED1 blinks.

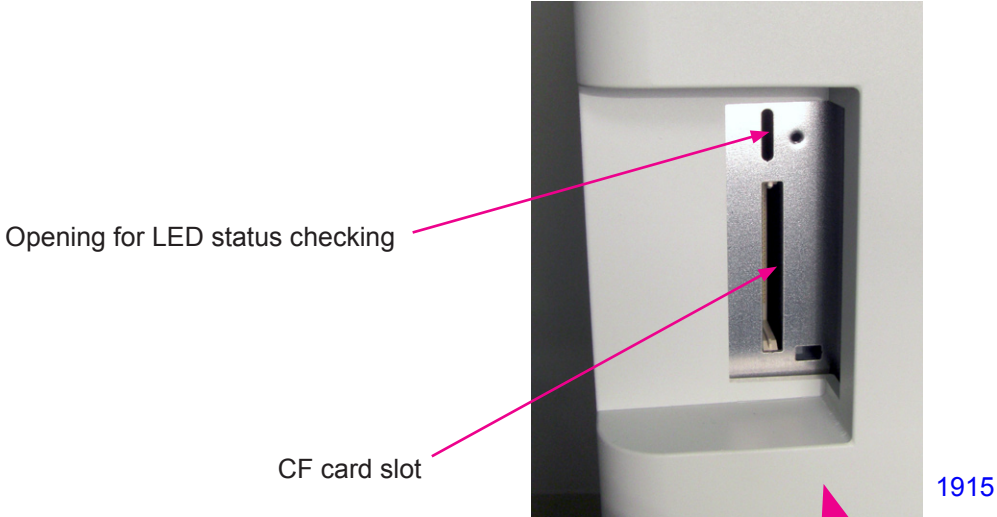
The abnormal (error) status of the three LEDs are described on Page 19-14.

- (6) Remove the CF Card in following procedure.

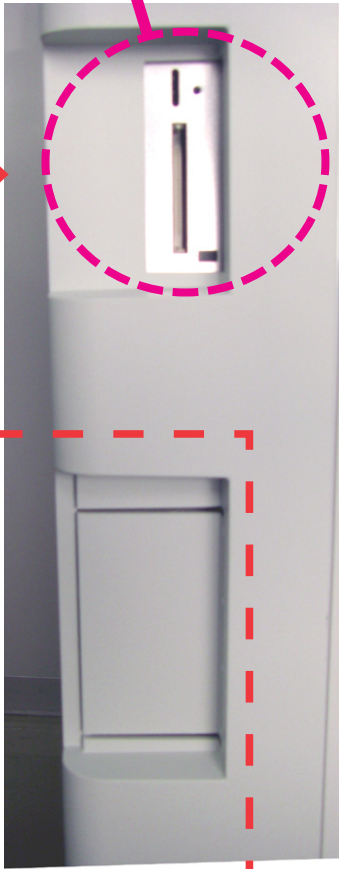
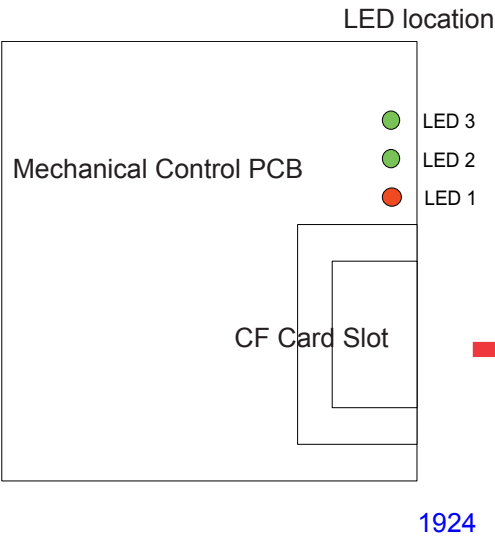
CF Card: Turn OFF the machine power, remove the CF Card and mount the Download slot cover back on the Rear cover of the machine.

CAUTION:

If the CF Card contained the same firmware program versions to that already in the Mechanical control PCB, the firmware downloading action will not take place. The LED2 and LED3 stay OFF and LED1 blinks. In this case, remove the CF Card from the machine (turn OFF the machine power first). The machine will operate with the existing firmware program.

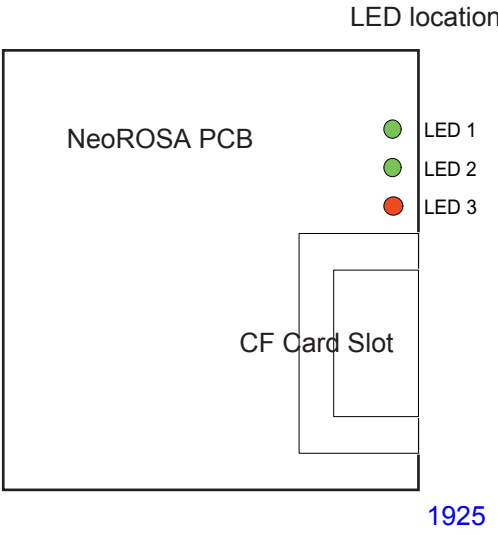


EZ2 & EZ3 < Mechanical Control PCB >



< OPTION >

EZ2 & EZ3 < OPTIONAL NeoROSA PCB >



EV5

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	X	X	X	O

See the sketch and photographs on the next page for the reference to the instructions.

- (1) Switch OFF the machine power.
- (2) Remove the Rear cover from the machine.
- (3) Insert the downloading CF Card containing appropriate firmware for the Mechanical control PCB and NeoROSA PCB for the specific machine model in a PC card adopter.
- (4) Insert the CF Card + PC card adopter in the Downloading Jig.
- (5) Attach the Downloading Jig on the Mechanical control PCB.
- (6) Download the Firmware Programs
 - Normal case
 - Activate the Test Mode No. 90 (Firmware download) to proceed the firmware download.
 - Special case
 - If the firmware download fails, or stops by accidental power down, switch ON the machine power again while pressing the <WAKE UP> key. The firmware download re-starts again.
- (7) The Mechanical control PCB program will download first and NeoROSA PCB program downloads the next. The two firmware programs downloads automatically, one after the other.
- (8) The downloading result can be checked by looking at the three LED status. The three LEDs are found on the NeoROSA PCB.
The three LEDs are: LED1 (green), LED2 (green) and LED3 (red).

[Normal Downloading Condition]

 1. During the Mechanical control PCB firmware program downloading:
LED2 blinks and LED1 and LED3 are OFF.
 2. During the NeoROSA PCB firmware program downloading:
LED1 blinks, LED2 lights and LED3 is OFF.
 3. At the completion of the two firmware program downloading:
LED1 and LED2 light and LED3 is OFF.

[Abnormal Downloading Condition]

 1. During the Mechanical control PCB firmware program downloading:
LED1 and LED2 show error status and LED3 blinks.
 2. During the NeoROSA PCB firmware program downloading:
LED1 and LED2 show error status and LED3 lights.

The abnormal (error) status of the three LEDs are described on Page 19-13.
- (9) Turn OFF the machine power and remove the Downloading Jig from the Mechanical control PCB and attach the Rear cover back on the machine.

CAUTION:

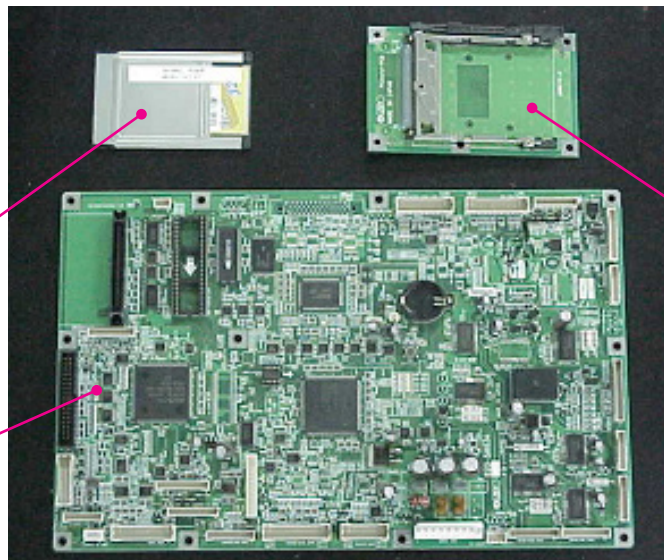
If the CF Card contained the same firmware program versions to those already in the two PCBs, the firmware downloading action will not take place. The LED1 and LED2 stay OFF and LED3 blinks. In this case, turn OFF the machine power and remove the Downloading Jig from the Mechanical control PCB and attach the Rear cover back on the machine. The machine will operate with the existing firmware program.

NOTE:

The actual Mechanical Control PCB may look different from the photograph.

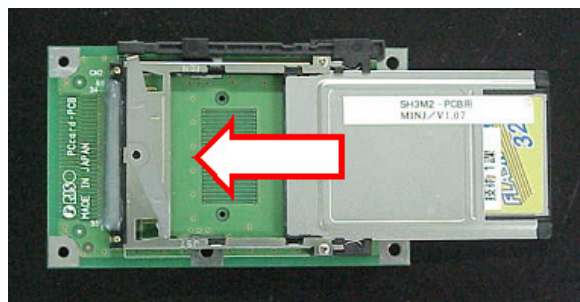
PC Card adaptor with
CF Card inserted

Mechanical control
PCB



Downloading Jig

1917

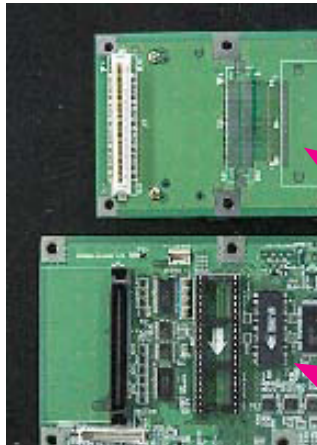


1918

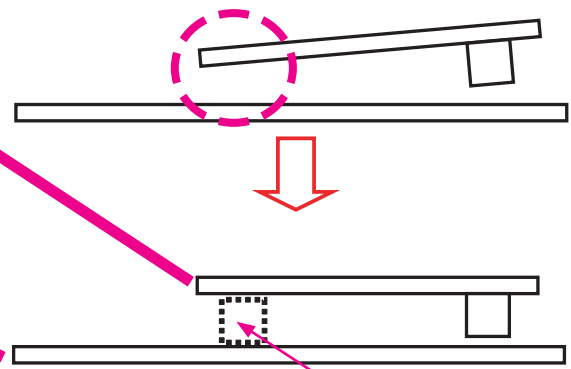
Insert the PC Card adaptor + CF Card into the Downloading Jig

Downloading Jig
(Rear View)

Mechanical
control PCB



1919



1921

Attach a Spacer to keep the
Downloading Jig level.
The Spacer must be of an
insulating material to avoid
electrical shortage.



Completion of attachment

1920

EV2 & EV3

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	X	O	O	X

See the sketch and photographs on the previous page for the reference to the instructions.

- (1) Switch OFF the machine power.
- (2) Remove the Rear cover from the machine.
- (3) Insert the downloading CF Card containing appropriate firmware for the Mechanical control PCB for the specific machine model in a PC card adopter.
- (4) Insert the CF Card + PC card adopter in the Downloading Jig.
- (5) Attach the Downloading Jig on the Mechanical control PCB.
- (6) Download the Firmware Programs
 - Normal case
 - Activate the Test Mode No. 90 (Firmware download) to proceed the firmware download.
 - Special case
 - If the firmware download fails, or stops by accidental power down, switch ON the machine power again while pressing the <WAKE UP> key. The firmware download re-starts again.
- (7) The downloading result can be checked by looking at the three LED status. The three LEDs are found on the Mechanical control PCB.
The three LEDs are: LED1 (red), LED2 (green) and LED3 (green).

[Normal Downloading Condition]

 1. During the Mechanical control PCB firmware program downloading:
LED2 blinks and LED1 and LED3 are OFF.
 2. At the completion of the firmware program downloading:
LED2 lights and LED1 and LED3 are OFF.

[Abnormal Downloading Condition]

 1. During the Mechanical control PCB firmware program downloading:
LED2 and LED3 show error status and LED1 blinks.

The abnormal (error) status of the three LEDs are described on Page 19-14.
- (6) Turn OFF the machine power and remove the Downloading Jig from the Mechanical control PCB and attach the Rear cover back on the machine.

CAUTION:

If the CF Card contained the same firmware program versions to that already in the Mechanical control PCB, the firmware downloading action will not take place. The LED2 and LED3 stay OFF and LED1 blinks. In this case, turn OFF the machine power and remove the Downloading Jig from the Mechanical control PCB and attach the Rear cover back on the machine. The machine will operate with the existing firmware program.

4. Firmware Downloading Status

EZ2	EZ3	EZ5	EV2	EV3	EV5
○	○	○	○	○	○

The ERROR status of the firmware download can be recognize by 3 LEDs.

EZ5 / EV5 Mechanical control PCB Firmware Download ERROR Status

Error Status	LED1 (Green)	LED2 (Green)	LED3 (Red)
Error (Unmatched model)	Blinking	OFF	Blinking
Error (Data malfunction)	OFF	Blinking	Blinking
Error (Downloading failed)	Blinking	Blinking	Blinking
Error (Data Size)	ON	OFF	Blinking
Error (File System)	OFF	ON	Blinking
Error (PCB Communication)	ON	Blinking	Blinking
Error (Others)	ON	ON	Blinking

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EZ5 / EV5 NeoROSA PCB Firmware Download ERROR Status

Error Status	LED1 (Green)	LED2 (Green)	LED3 (Red)
Error (Unmatched model)	Blinking	OFF	ON
Error (Data malfunction)	OFF	Blinking	ON
Error (Downloading Failed / Program unmatched)	Blinking	Blinking	ON
Error (Data Size)	ON	OFF	ON
Error (File System)	OFF	ON	ON
Error (PCB Communication)	ON	Blinking	ON
Error (Others)	ON	ON	ON

1908

Action to take against the error

Error Type	Action
Error (Unmatched model)	Check that the machine model for the firmware program to download matches with the actual machine model.
Error (Data malfunction)	Re-write the program in the CF Card or the USB Memory.
Error (Downloading Failed / Program unmatched)	Check the physical connection between the machine and CF Card or the USB Memory. Check that the CF Card or USB Memory contain correct firmware program for that machine.
Error (Data Size)	Re-write the program in the CF Card or the USB Memory.
Error (File System)	Check the physical connection between the machine and CF Card or the USB Memory.
Error (PCB Communication)	Check the connection (wires, connectors).
Error (Others)	Check the physical connection between the machine and CF Card or the USB Memory.

Take the action to the error after checking the LED error status and turning the machine power OFF.

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EZ2 / EZ3 / EV2 / EV3 Mechanical control PCB Firmware Download ERROR Status

Error Status	LED1 (Red)	LED2 (Green)	LED3 (Green)
Error (Unmatched model)	Blinking	OFF	Blinking
Error (Data malfunction)	Blinking	Blinking	OFF
Error (Downloading failed)	Blinking	Blinking	Blinking
Error (Data Size)	Blinking	OFF	ON
Error (File System)	Blinking	ON	OFF
Error (PCB Communication)	Blinking	Blinking	ON
Error (Others)	Blinking	ON	ON

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EZ2 / EZ3 / EV2 / EV3 Optional NeoROSA PCB Firmware Download ERROR Status

Error Status	LED1 (Green)	LED2 (Green)	LED3 (Red)
Error (Unmatched model)	Blinking	OFF	ON
Error (Data malfunction)	OFF	Blinking	ON
Error (Downloading Failed)	Blinking	Blinking	ON
Error (Data Size)	ON	OFF	ON
Error (File System)	OFF	ON	ON
Error (PCB Communication)	ON	Blinking	ON
Error (Others)	ON	ON	ON

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Action to take against the error

Error Type	Action
Error (Unmatched model)	Check that the machine model for the firmware program to download matches with the actual machine model.
Error (Data malfunction)	Re-write the program in the CF Card.
Error (Downloading Failed)	Check the physical connection between the machine and CF Card.
Error (Data Size)	Re-write the program in the CF Card.
Error (File System)	Check the physical connection between the machine and CF Card.
Error (PCB Communication)	Check the connection (wires, connectors).
Error (Others)	Check the physical connection between the machine and CF Card.

Take the action to the error after checking the LED error status and turning the machine power OFF.

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5. Power-Saving (Low-Power) Mode

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

With no error status on the machine, if no operation is made on the machine for 30 seconds, the 24 volt supply to the machine components is terminated. This must be kept in mind when using a multi-meter to check the 24 volts on the machine. Whether the machine is in the Power-Saving Mode or not can be confirmed by looking at the heart-beat-LED on the Mechanical Control PCB. The blinking of the LED is fast in normal condition, and slow in the Power-Saving Mode. The machine will not go into the Power-Saving Mode when in Test Mode.

6. To Display the Download File Contents

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	O

The contents of the download file can be seen by activating the Test Mode No.132 [Download File Information] with the CF Card connected to the PCB. (Test Mode No.132 does not apply on USB Memory at this moment.)

7. Compatibility of USB Memory for Data Printing

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	X

- Mass storage device class support USB flash memory 1.1 or 2.0.
- FAT16 or FAT32 are supported (Example: NTFS is not supported).
- Only mass storage device USB is supported (Example: USB HUB, USB Mouse, USB Printer Device, etc. are not supported.)
- Following USB Memory cannot be used:
 - USB Memory with Media Converter function
 - USB Memory supporting multiple drive connection
 - USB Memory with Media Reader/Writer function
 - USB Memory with Authentication system

8. USB Memory for Authentication

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	X

- An USB Memory with the same specification explained on above item-7 should work for the Authentication purpose. But certain USB Memories missing Vender ID, Product ID, iSerial Number, etc. may not work..

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	X

9. Removing the USB Memory from the Machine

In printing the data from the USB Memory, the operation panel of the machine indicates that the USB Memory is being accessed. If the USB Memory is unplugged from the machine while being accessed, the data in the USB Memory may be damaged. In the worst case, the USB Memory may need to be reformatted with a PC, erasing all the data contained in the USB Memory. Make sure that the USB Memory is not accessed when unplugging it from the machine.

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	O

10. Copy Count Control by the User Name (optional Key Card Counter)

Precaution on the Test Mode No.111 [Clearing User Memory].

The Key Card Counter can control the copy count of each user registered. A copy count data is memorized in the EEPROM on the Key Card Counter PCB, but the user name data is memorized separately in the Flash memory on the NeoROSA PCB.

This user name data will disappear when the NeoROSA PCB fails or by activation of Test Mode No. 111 [Clearing User Memory].

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	O

11. Administrator's Password

Precaution on the Test Mode No.118 [Clearing authentication setting].

If the user loose or forget administrator's password, the user can clear administrator's password for re-setting by activating Test Mode No. 118 (Clearing authentication setting), however this will clear all user information that the customer registered.

If the Administrator of the machine forgets the Administrator Password, the serviceman can initialize the authentication setting for the customer by using Test Mode No.118 [Clearing authentication setting]. However, if this test mode is used, not only the password is initialized, but all the user administrator information are cleared at the same time. Caution must be paid before activating this test mode.

12. Replacing the Mechanical control PCB

EZ2	EZ3	EZ5	EV2	EV3	EV5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Mechanical control PCB controls the ON/OFF information command of the sensors and switches, and also does the image processing job.

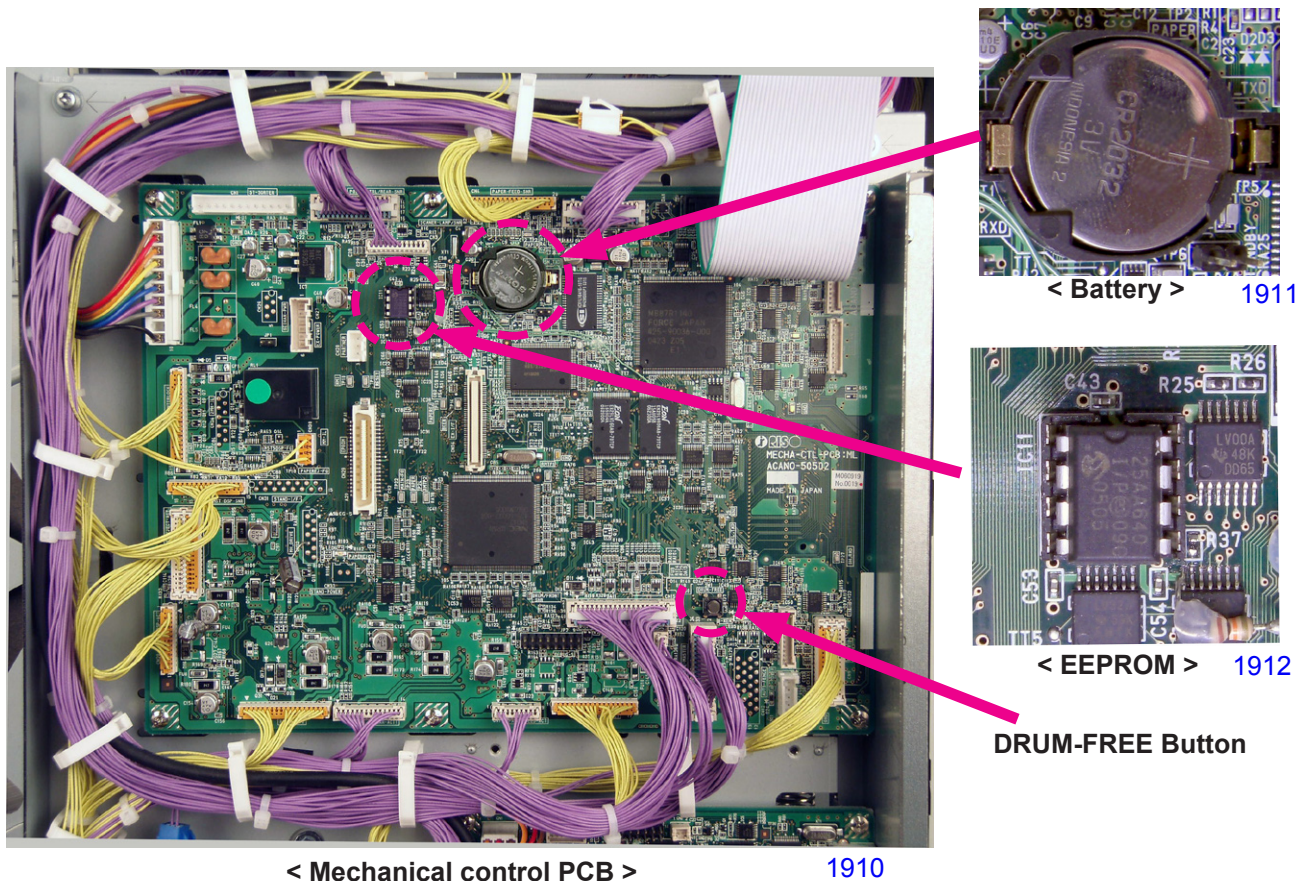
Make sure to discharge the static electricity from the body before touching the PCB.

- (1) Turn OFF the machine power. Remove the EEPROM and BATTERY from the existing Mechanical control PCB.
- (2) Mount the EEPROM and BATTERY removed from the existing PCB onto the new Mechanical control PCB, and mount the new PCB on the machine.
- (3) Download the Mechanical control PCB firmware software onto the new Mechanical control PCB.
- (4) Turn OFF the machine power. Then turn the machine power back ON in Test Mode.
- (5) Activate Test Mode No.9874 to go into the protected area test mode and activate Test Mode No.1198 to initialize the PCB. Then turn the machine power OFF.
- (6) Turn ON the machine power again in Test Mode to set the correct time on the machine by using Test Modes No.171, 172 and 173. Activate Test Mode No.101 at the end for the activation of the new time setting made by the previous Test Modes No.171, 172 and 173.
- (7) Turn OFF the machine power and turn it back ON.
- (8) If the machine starts up in normal condition, the work is completed.

NOTE:

Only on EZ5 and EV5, the date and time can be input from the operation panel in user-mode, above step No. 6 can be skipped. In that case, make sure to input the correct date and time from the user-mode at the very end.

*** The DRUM-FREE button on the Mechanical control PCB is for the free rotation of the Print Drum.**



13. Replacing the Battery

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Replace the battery on the Mechanical control PCB with the machine power ON.

*If the battery is removed from the machine with the machine power OFF, in certain conditions the internal clock of the machine initializes to programmed default and clock adjustment becomes necessary.

14. Replacing the NeoROSA PCB

EZ2	EZ3	EZ5	EV2	EV3	EV5
X	X	O	X	X	#

EV5

EV5 does not have USB host connector. EV5 needs to use PC Card adopter and Downloading JIG, and download the Firmware from the Mechanical Control PCB.

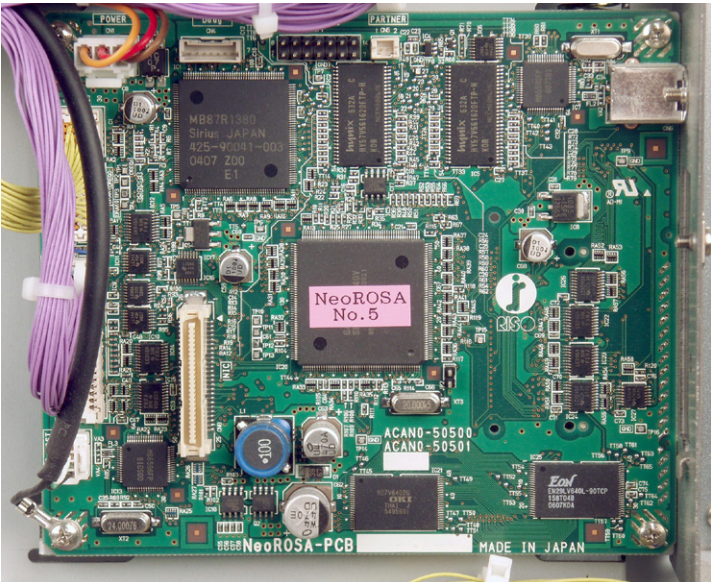
The NeoROSA PCB mainly controls the PC interface.

Make sure to discharge the static electricity from the body before touching the PCB.

- (1) Turn OFF the machine power. Then insert a blank CF (compact flash) Card, with no data inside, into the card slot on the NeoROSA PCB or blank USB Memory on the machine.
- (2) Turn ON the machine power in Test Mode and activate Test Mode No. 103 [Machine Test Mode Data Recording].
- (3) Turn OFF the machine power and remove the CF Card or USB Memory.
- (4) Replace the existing NeoROSA PCB with a new one.
- (5) Download system firmware program onto the new NeoROSA PCB.
- (6) Turn OFF the machine power once the firmware is downloaded onto the new NeoROSA PCB.
- (7) Turn the machine power back ON in Test Mode. Activate Test Mode No. 9874 to access into the protected area test mode.
- (8) Without turning the power OFF, activate test modes No.110 [Jam status clear], No.112 [test mode data clear], No. 111 [user area memory clear] and No. 1193 [REv data clear] in the order given.
- (9) Turn OFF the machine power and insert the previous CF Card or USB memory.
- (10) Turn the machine power back ON in Test Mode and activate Test Mode No.105 to download the stored test mode settings into new NeoROSA PCB).
- (11) Turn OFF the machine power and remove the CF Card or USB memory.
- (12) Turn ON the machine power, and if the machine starts up in normal condition, the PCB replacement job is completed.

Note:

Since the user settings cannot be recorded on the CF card nor USB Memory, memo down the user settings before replacing the PCB. Manually input the user settings in the machine after the PCB is replaced.



< NeoROSA PCB >

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15. Replacing the Drum PCB

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	#	#	#

EV Series machines need to use PC Card adopter and Download JIG.

Make sure to discharge the static electricity from the body before touching the PCB

- (1) Turn OFF the machine power. Then insert a blank CF (compact flash) Card, with no data inside, into the card slot on either the Mechanical control PCB or NeoROSA PCB, depending on the machine model.
- (2) Turn ON the machine power in Test Mode and activate Test Mode No.104 [Print Drum Test Mode Data Recording].
- (3) Pull out the Print drum from the unit and replace the Drum PCB.
- (4) Insert the Print drum back in the machine.
- (5) Activate Test Mode No.9874 to access into the protected area test mode.
- (6) Then activate test modes No.1211 and No. 212 to enter the drum serial number.
- (7) Activate Test Mode No.106 [Print Drum Test Mode Data Restore].
- (8) Turn OFF the machine power and remove the CF Card out from the machine.
- (9) Turn ON the machine power, and if the machine starts up in normal condition, the PCB replacement job is completed.

16. Print position adjustment procedures

EZ2	EZ3	EZ5	EV2	EV3	EV5
O	O	O	O	O	O

Conduct the print positioning adjustment in the order of steps given below.

- (1) Adjust the clamp amount. [Chapter 16]
- (2) Adjust the writing start position. [Chapter 15]
- (3) Adjust the print start position. [Chapter 6]
- (4) Adjust the FB scanning start position. [Chapter 12]
- (5) Adjust the master making image elongation and shrinkage. [Chapter 15]
- (6) Adjust FB scanning image elongation and shrinkage. [Chapter 12]

Precaution in adjustment

Before making above test mode adjustments, it is important that all the mechanical components, such as the main drive area, paper feed area, print drum area, etc. are adjusted first.

If the machine is equipped with the optional Auto Document Feeder (AF), the test mode adjustment on the AF unit should be made after the adjustments on the FB (flatbed) scanning is made.

MEMO

CHAPTER 20: WIRING DIAGRAMS

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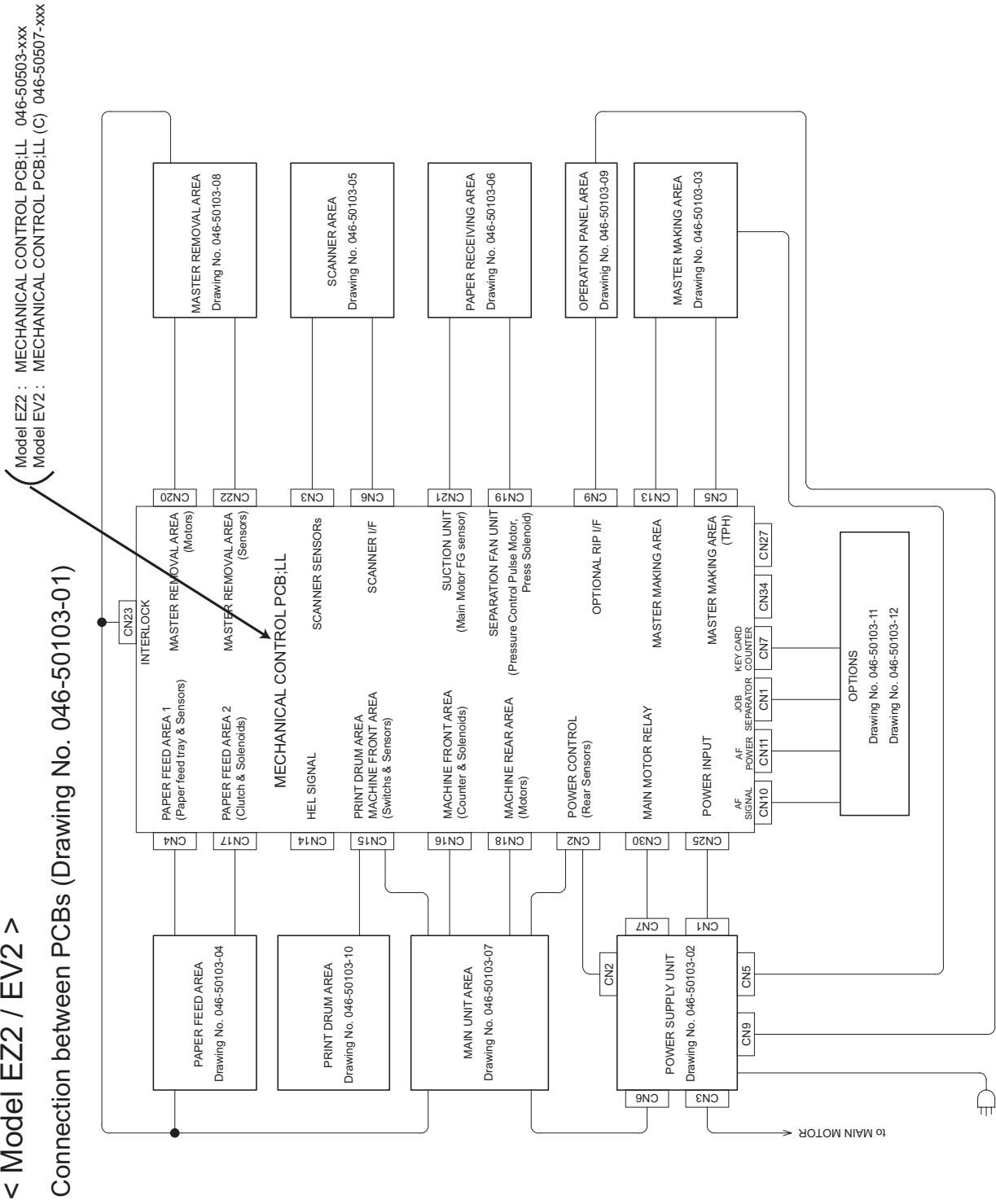
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- continued from previous page -

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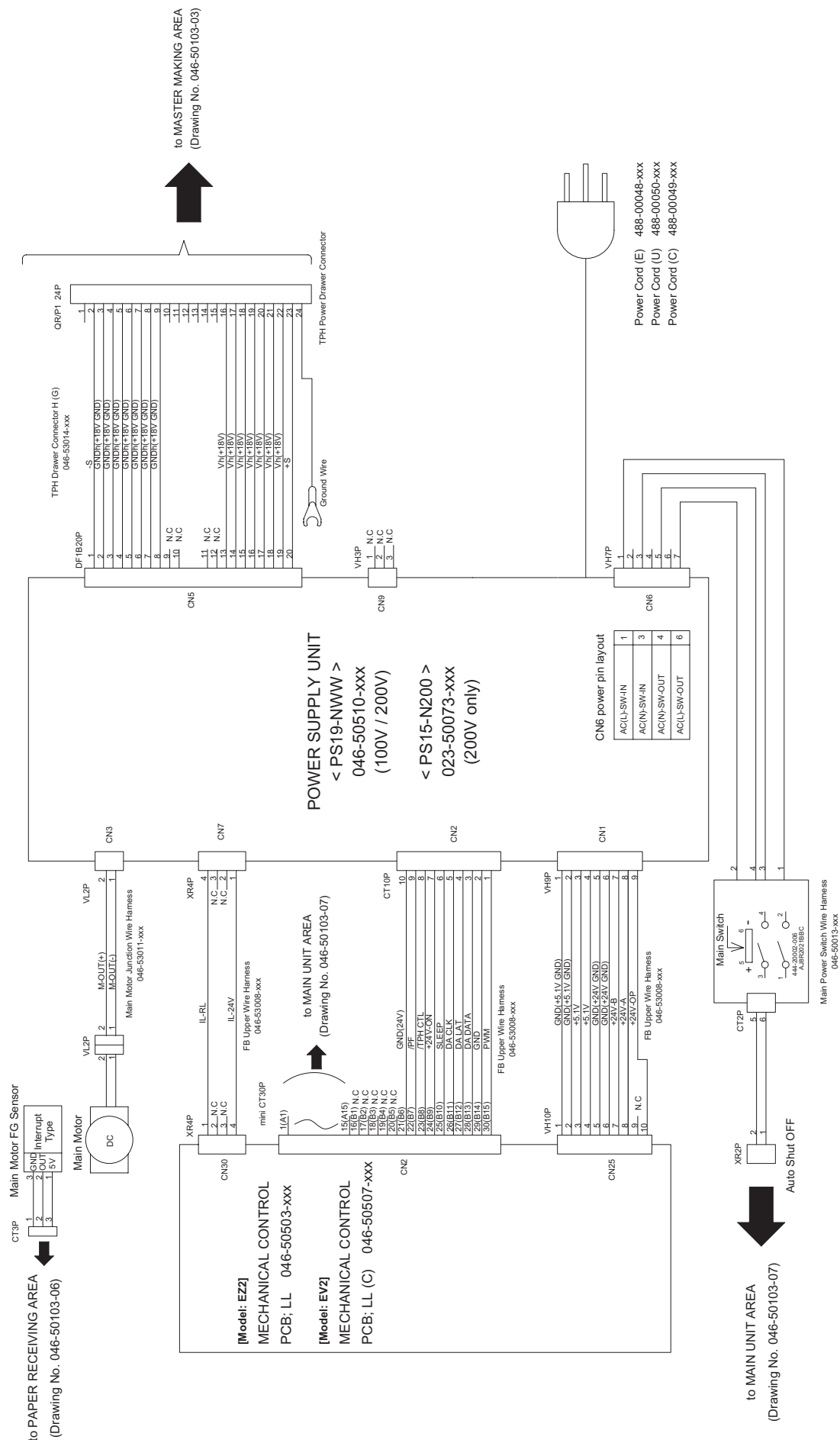
1. EZ2 & EV2

1) Connection between PCBs [EZ2 & EV2]



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POWER SUPPLY UNIT (Drawing No. 046-50103-02)



MASTER MAKING AREA (Drawing No. 046-50103-03)



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PAPER FEED AREA (Drawing No. 046-50103-04)



NOTE: Elevator Motor for the Paper Feed Tray is listed on MASTER REMOVAL AREA (Drawing No. 046-50103-08).

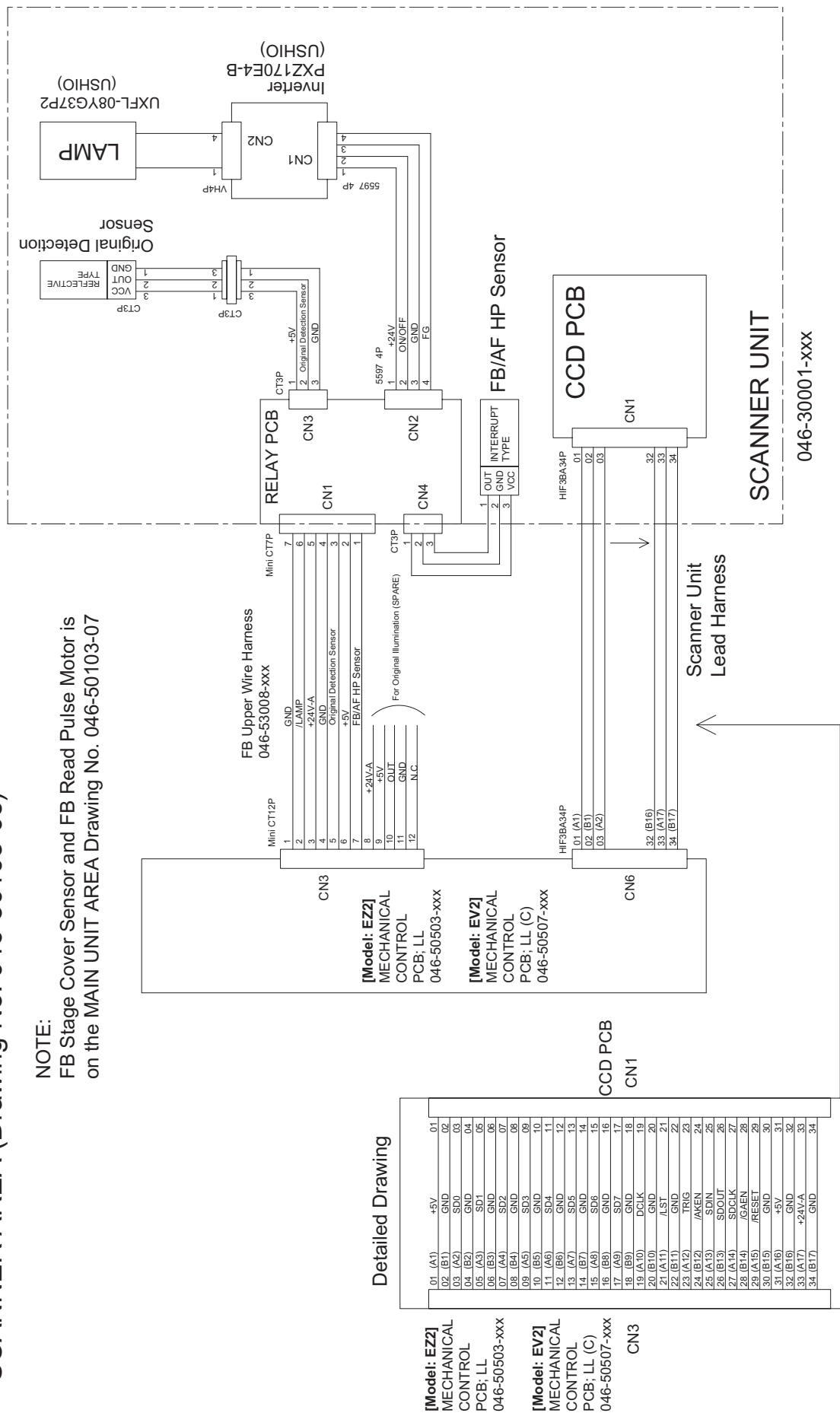
5) Scanner Area [EZ2 & EV2]

<Model EZ2 / EV2 >

SCANNER AREA (Drawing No. 046-50103-05)

NOTE:

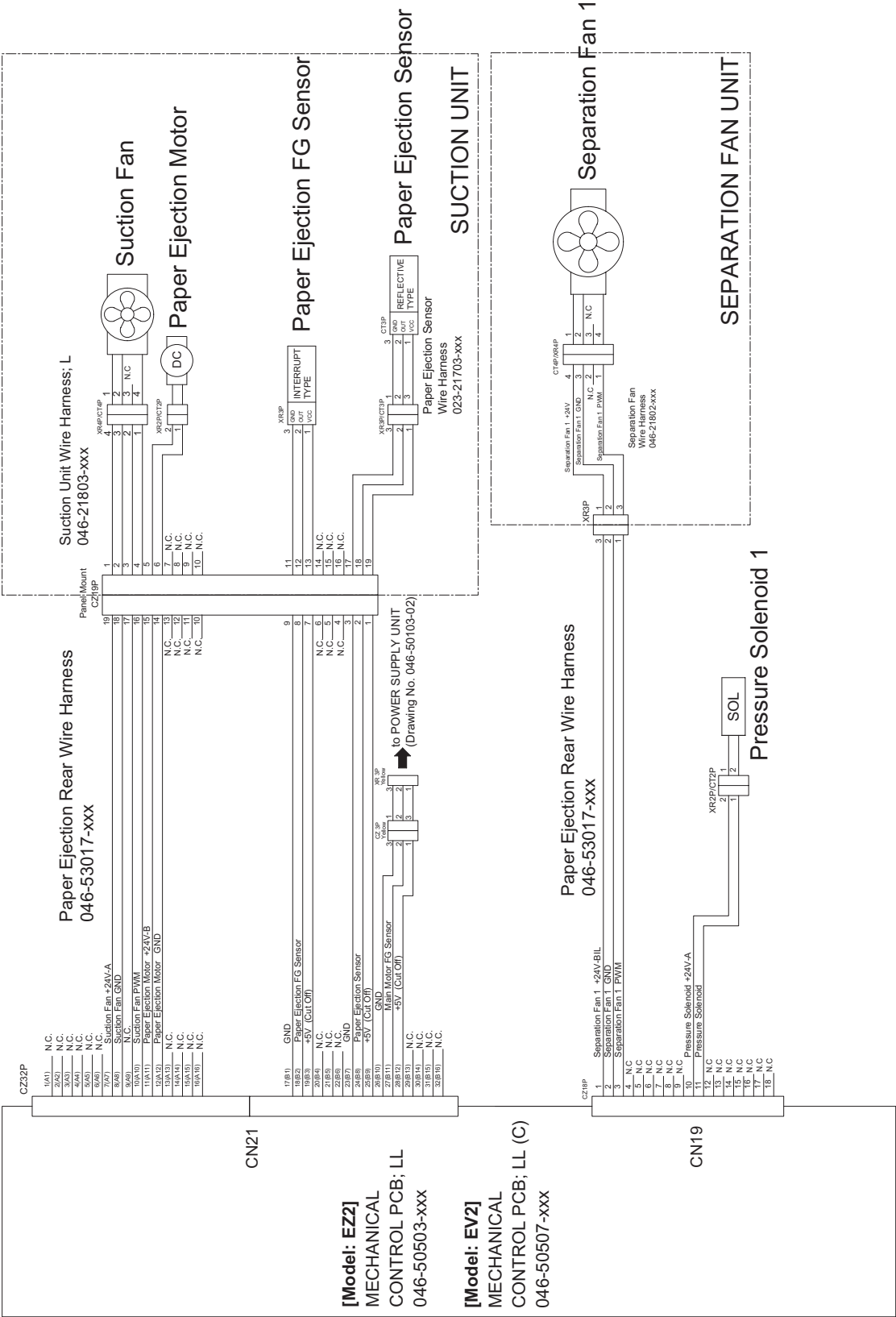
FB Stage Cover Sensor and FB Read Pulse Motor is
on the MAIN UNIT AREA Drawing No. 046-50103-07



6) Paper Receiving Area [EZ2 & EV2]

< Model EZ2 / EV2 >

PAPER RECEIVING AREA (Drawing No. 046-50103-06)

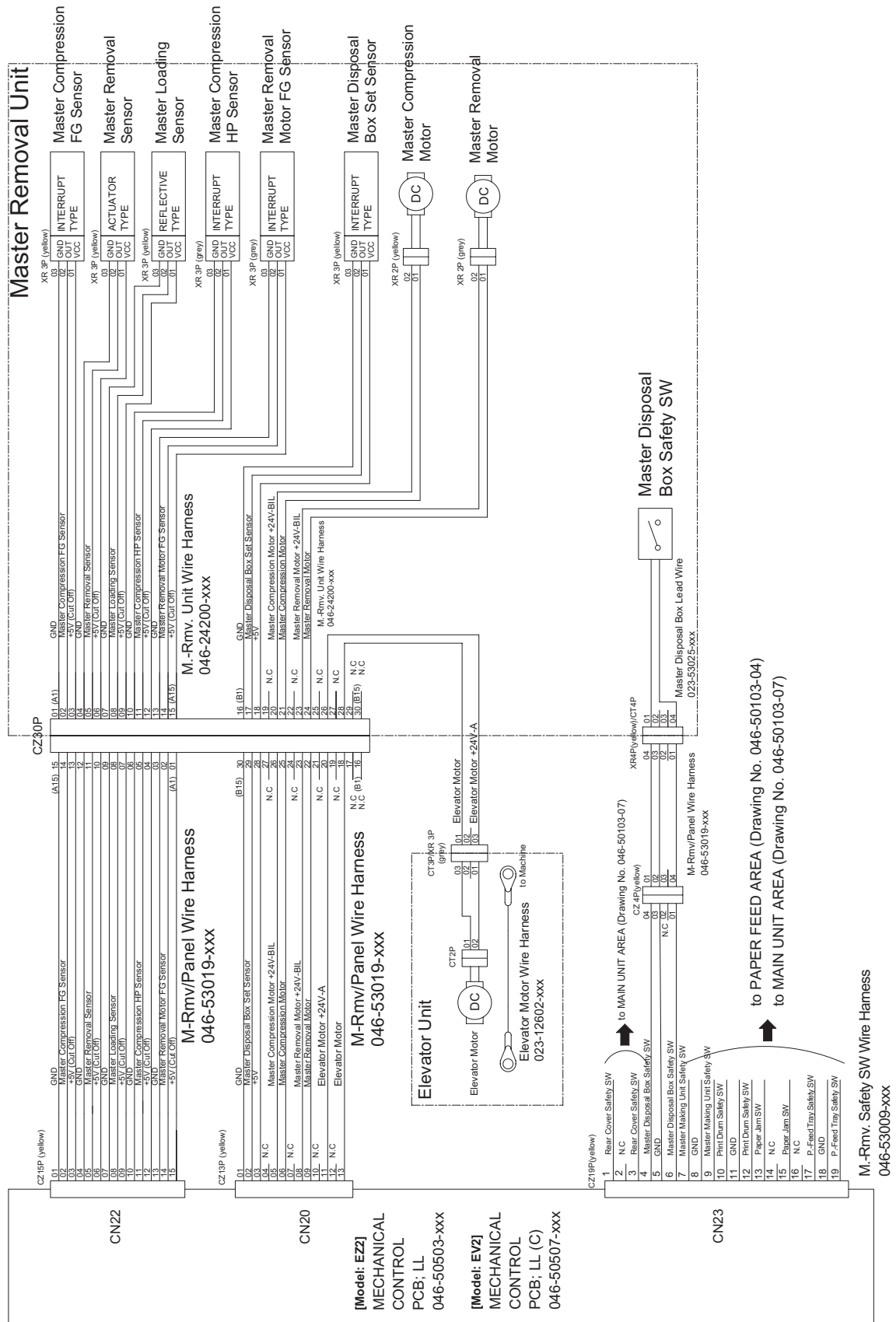


MAIN UNIT AREA (Drawing No. 046-50103-07)



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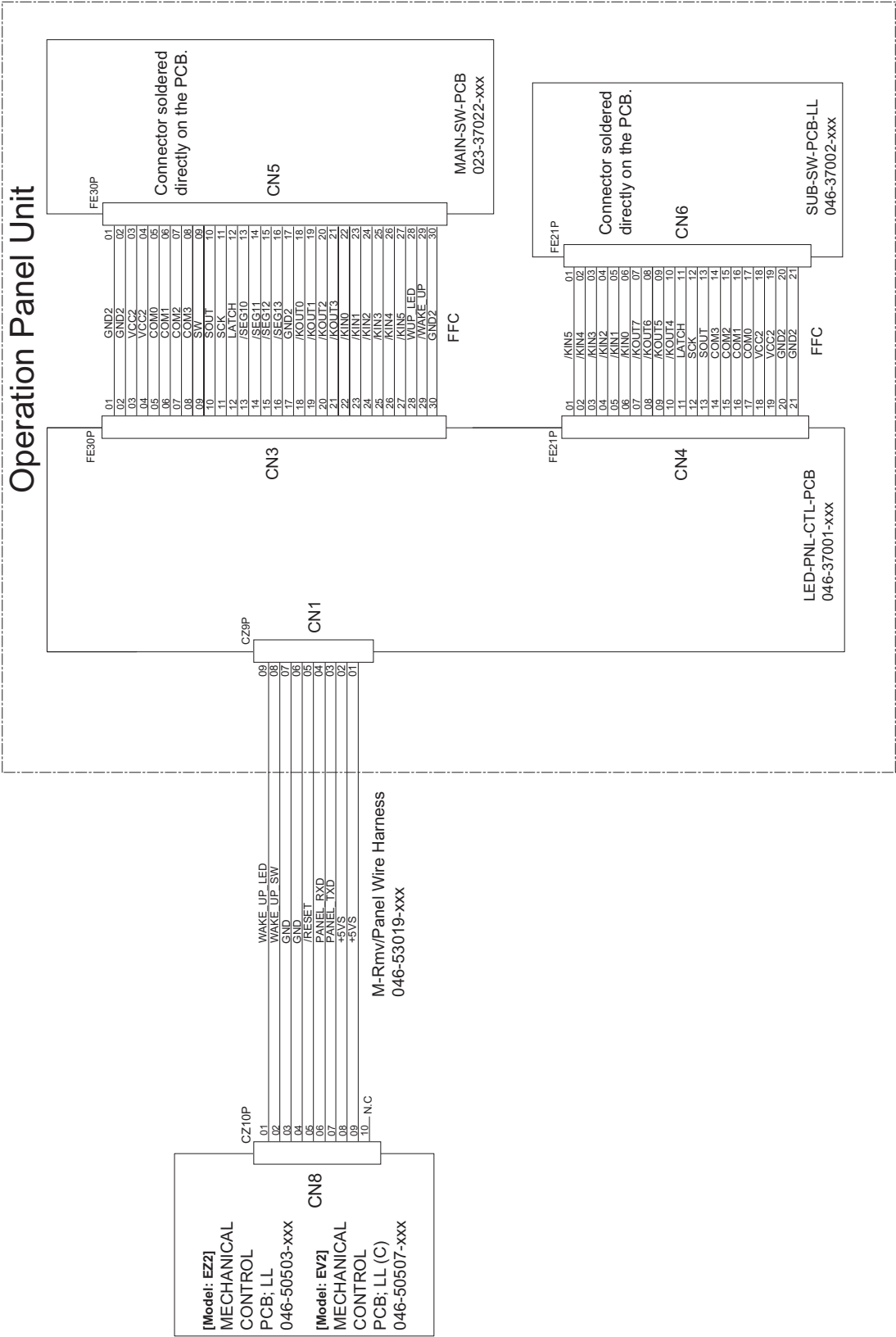
MASTER REMOVAL AREA (Drawing No. 046-50103-08)



9) Operation Panel Area [EZ2 & EV2]

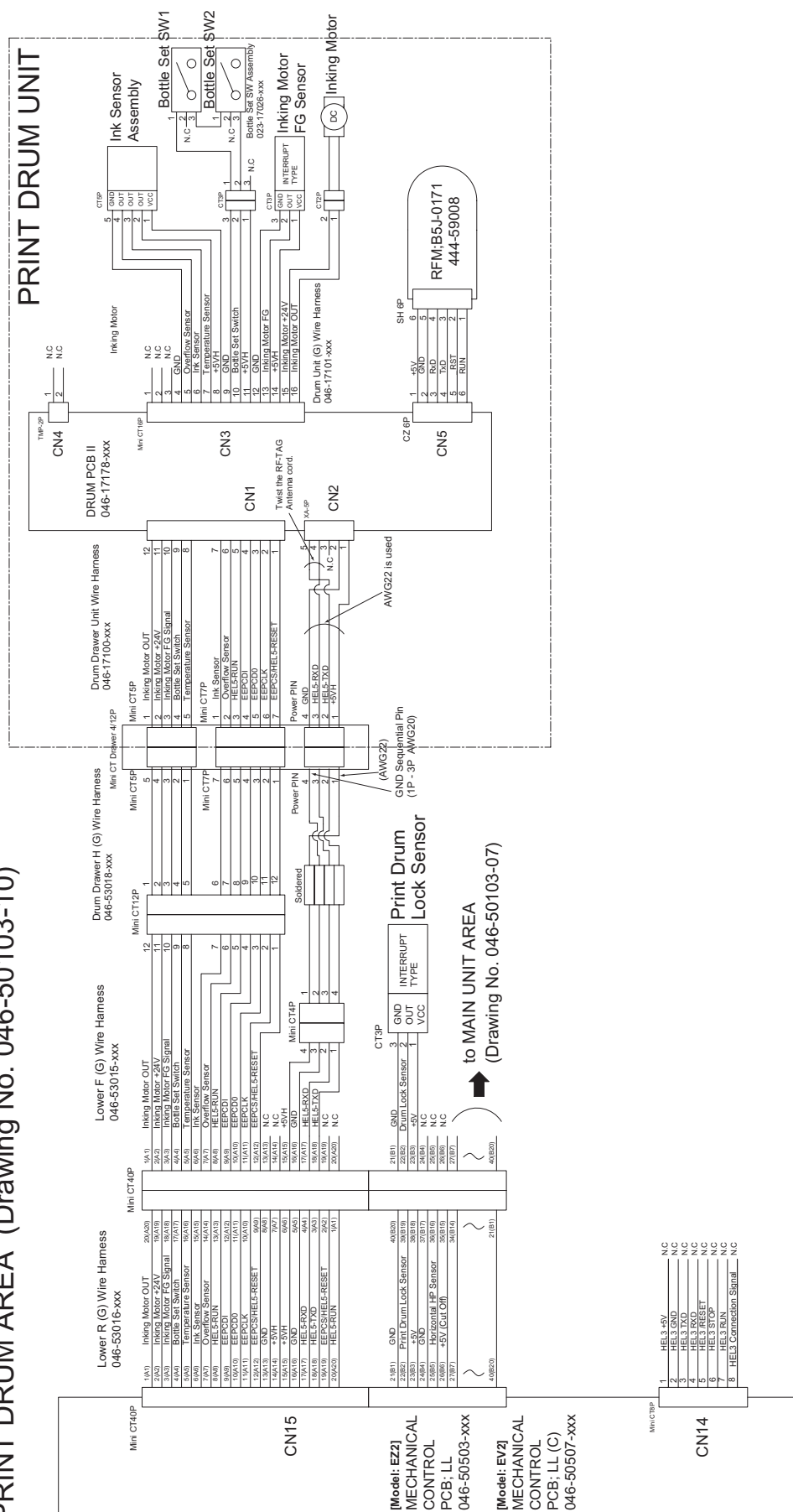
< Model EZ2 / EV2 >

OPERATION PANEL AREA (Drawing No. 046-50103-09)



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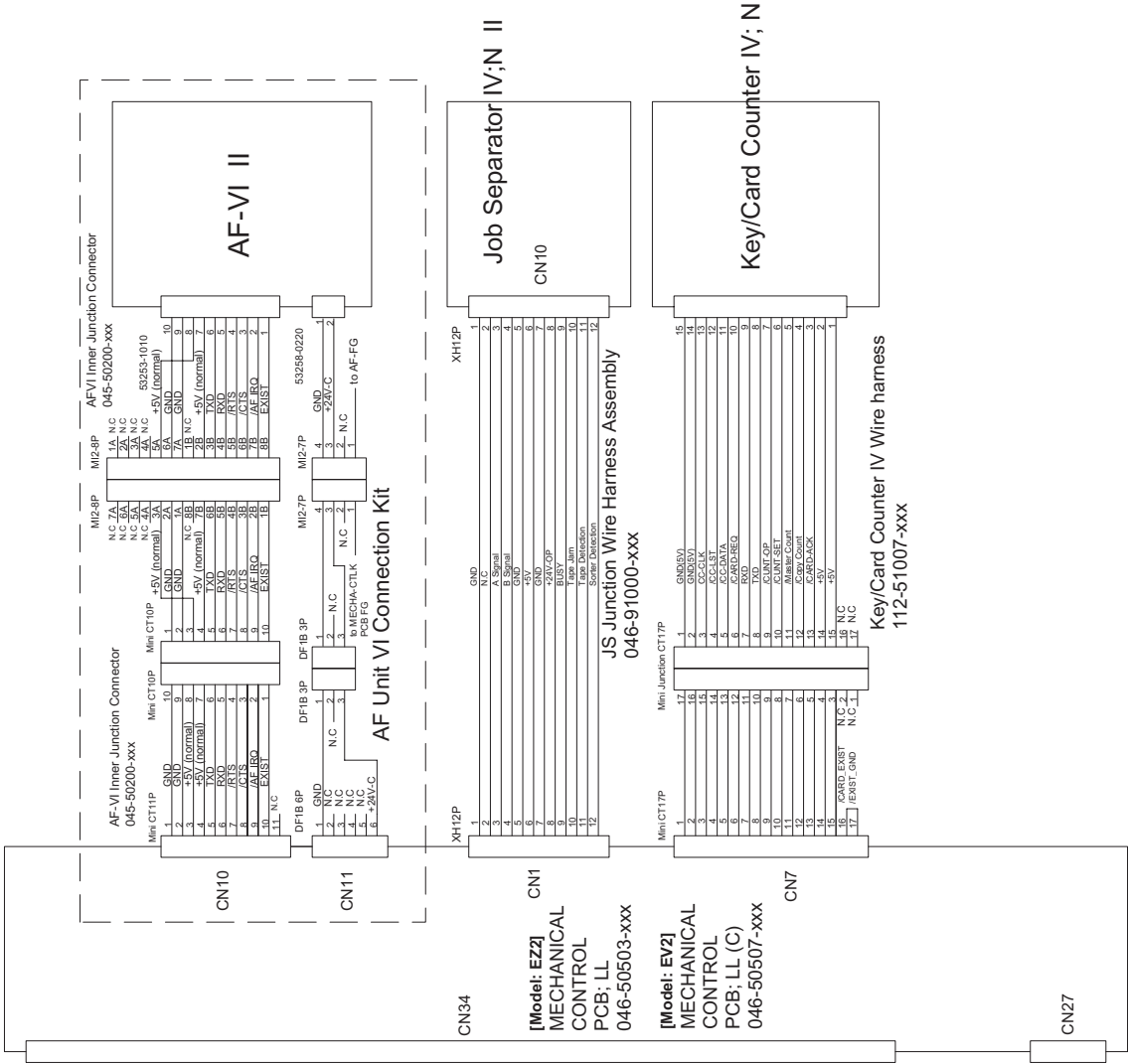
PRINT DRUM AREA (Drawing No. 046-50103-10)



11) Options-1 [EZ2 & EV2]

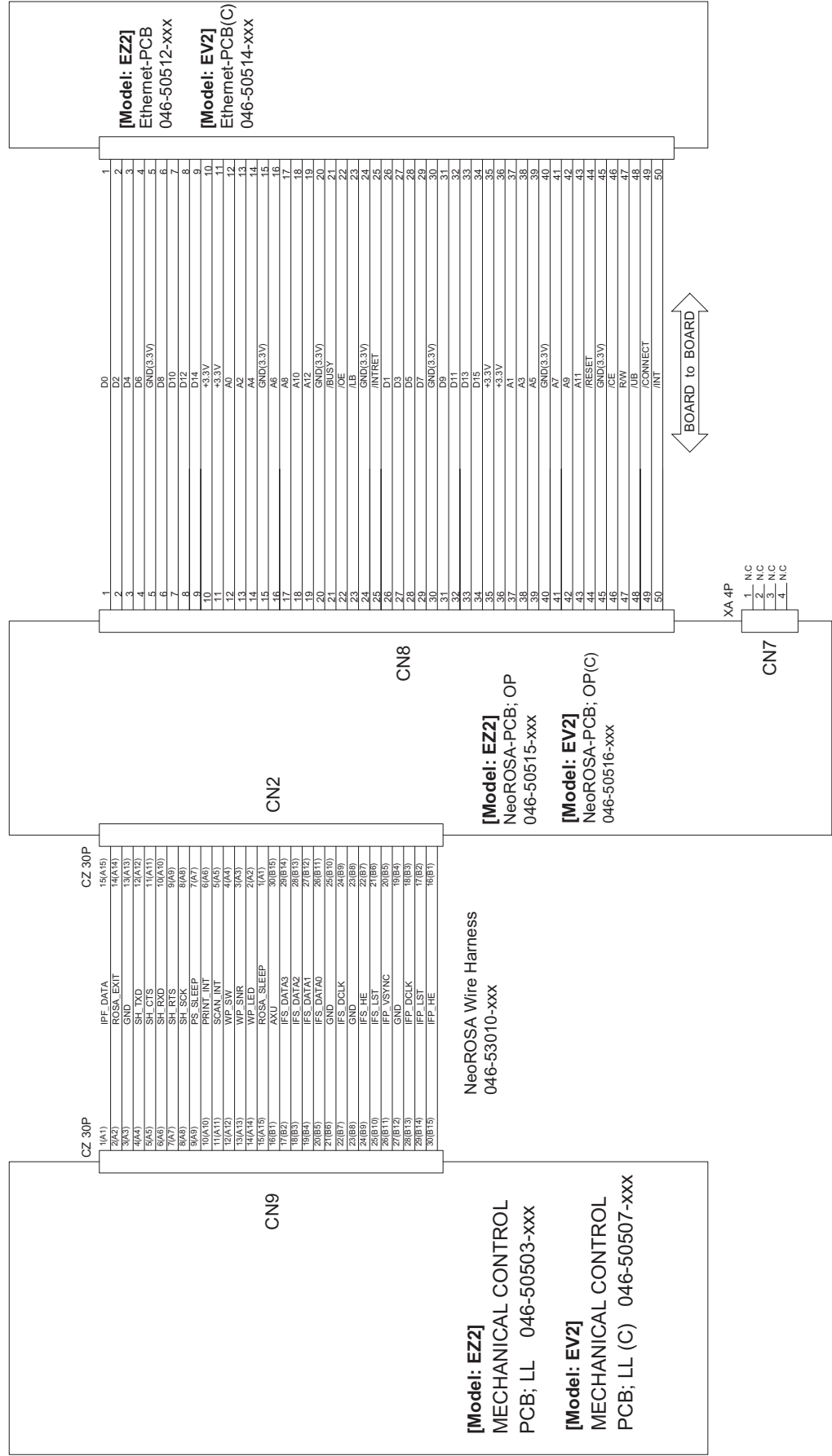
< Model EZ2 / EV2 >

OPTIONS (Drawing No. 046-50103-11)



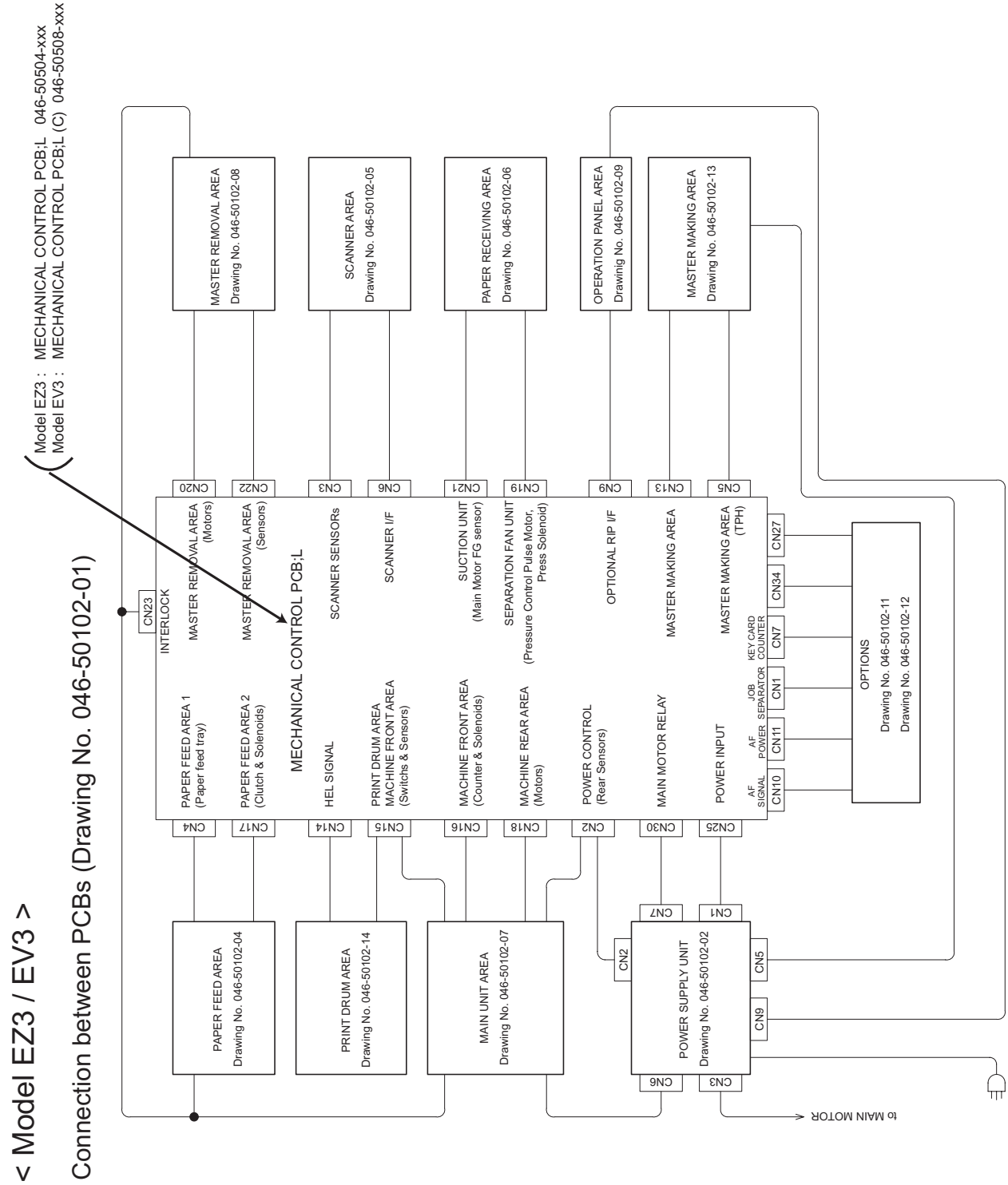
12) Options-2 [EZ2 & EV2]

< Model EZ2 / EV2 >
OPTIONS (Drawing No. 046-50103-12)

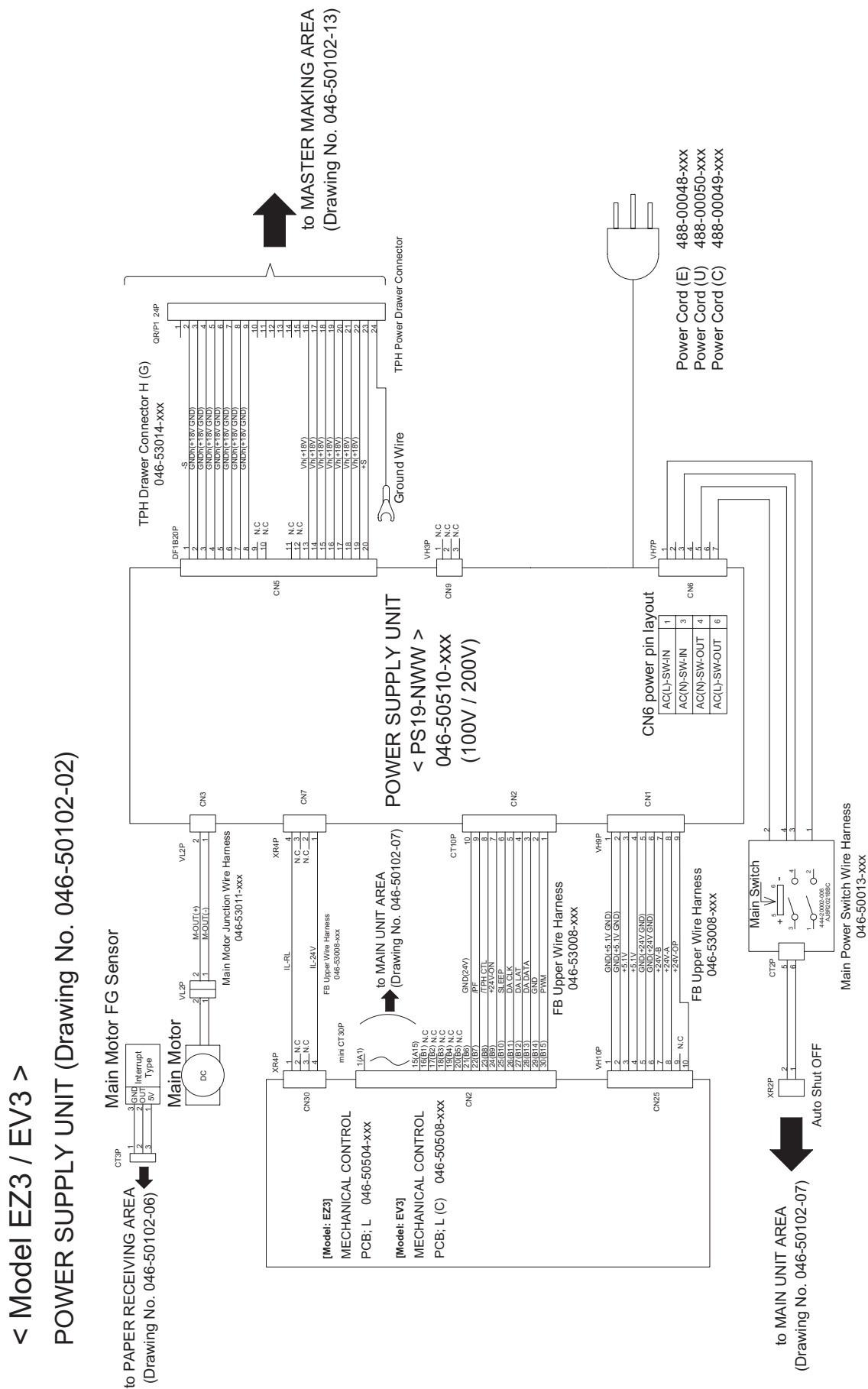


2. EZ3 & EV3

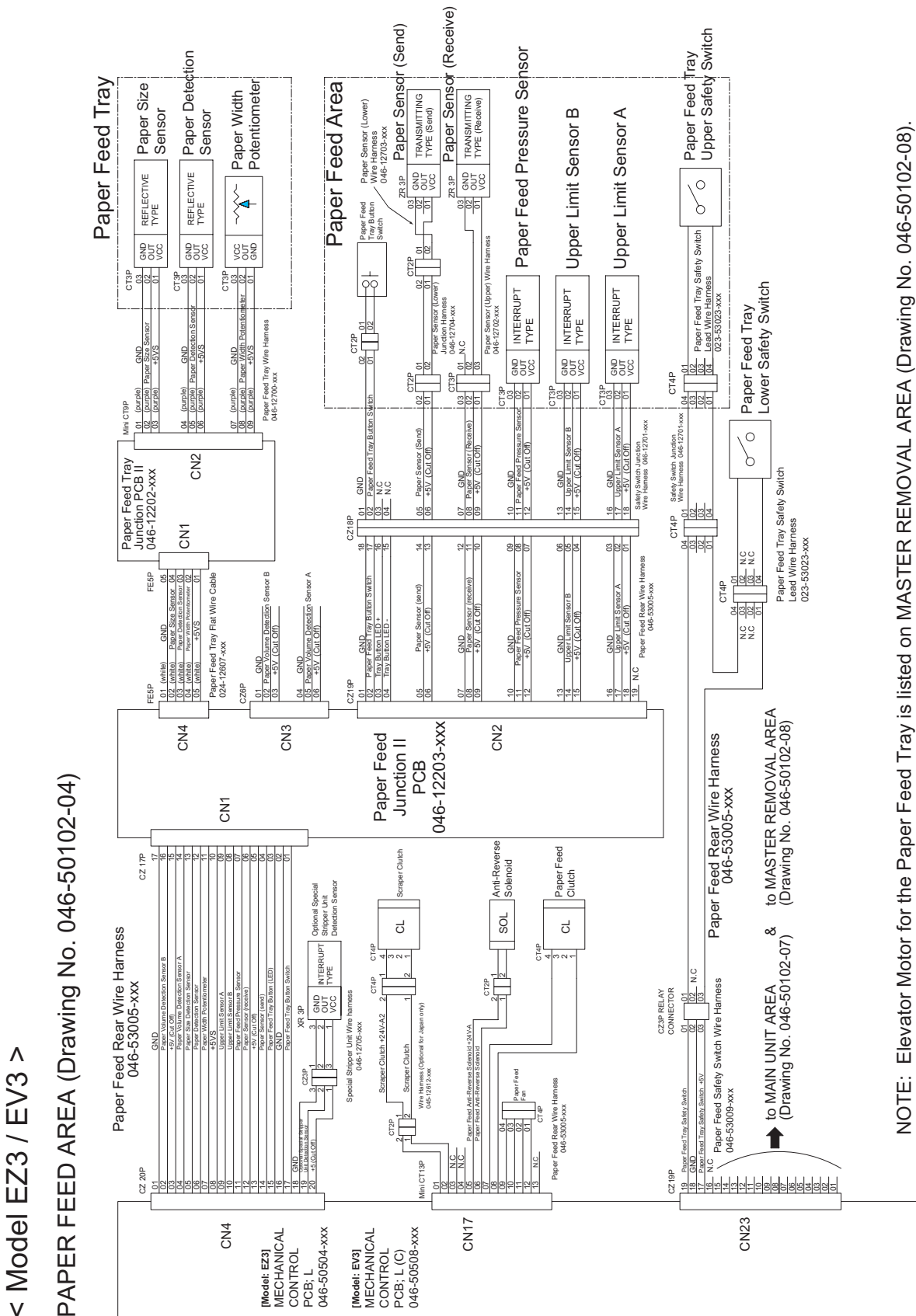
1) Connection between PCBs [EZ3 & EV3]



2) Power Supply Unit [EZ3 & EV3]



3) Paper Feed Area [EZ3 & EV3]



NOTE: Elevator Motor for the Paper Feed Tray is listed on MASTER REMOVAL AREA (Drawing No. 046-50102-08).

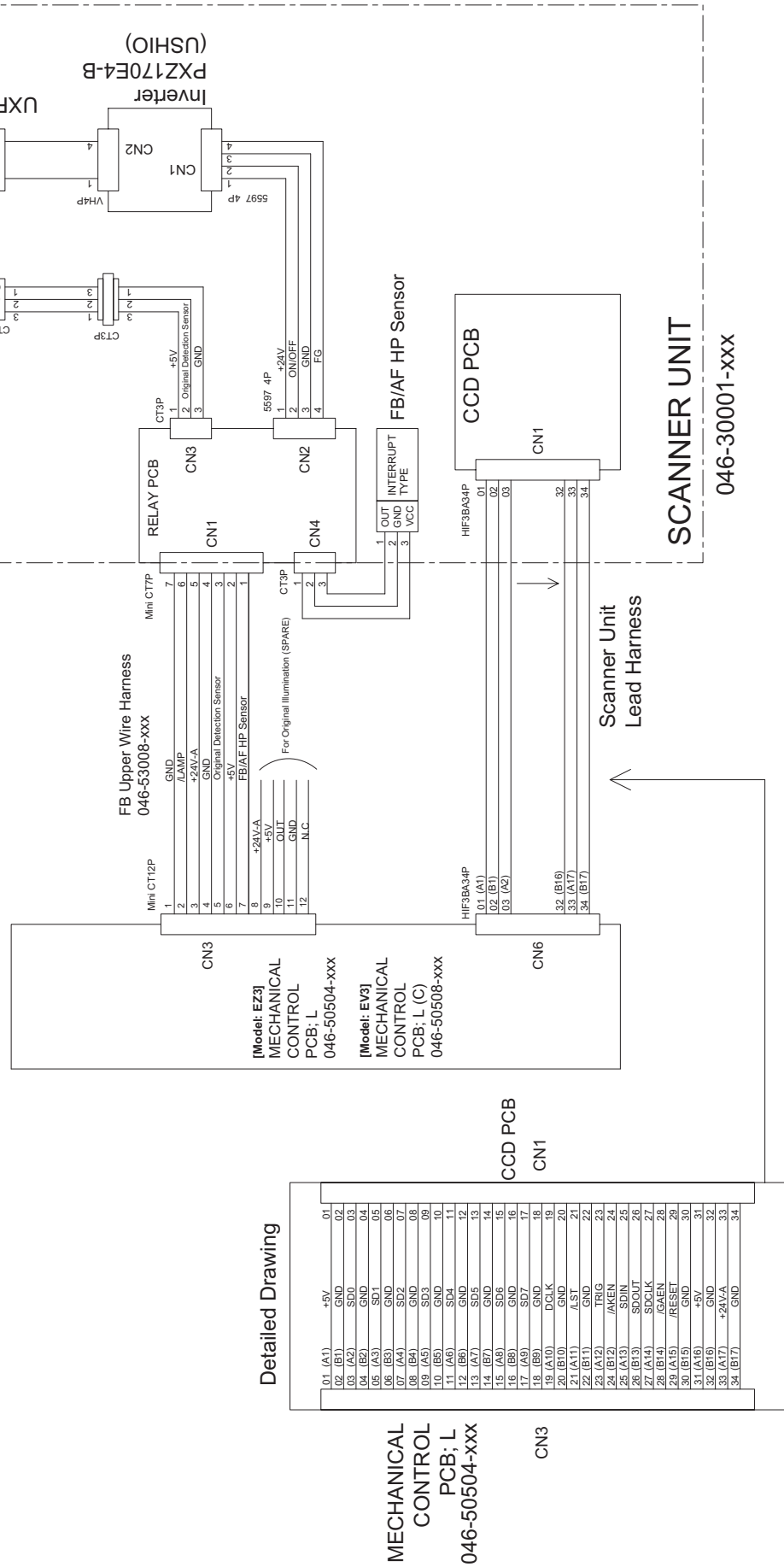
4) Scanner Area [EZ3 & EV3]

< Model EZ3 / EV3 >

SCANNER AREA (Drawing No. 046-50102-05)

NOTE:

FB Stage Cover Sensor and FB Read Pulse Motor is on the MAIN UNIT AREA Drawing No. 046-50102-07

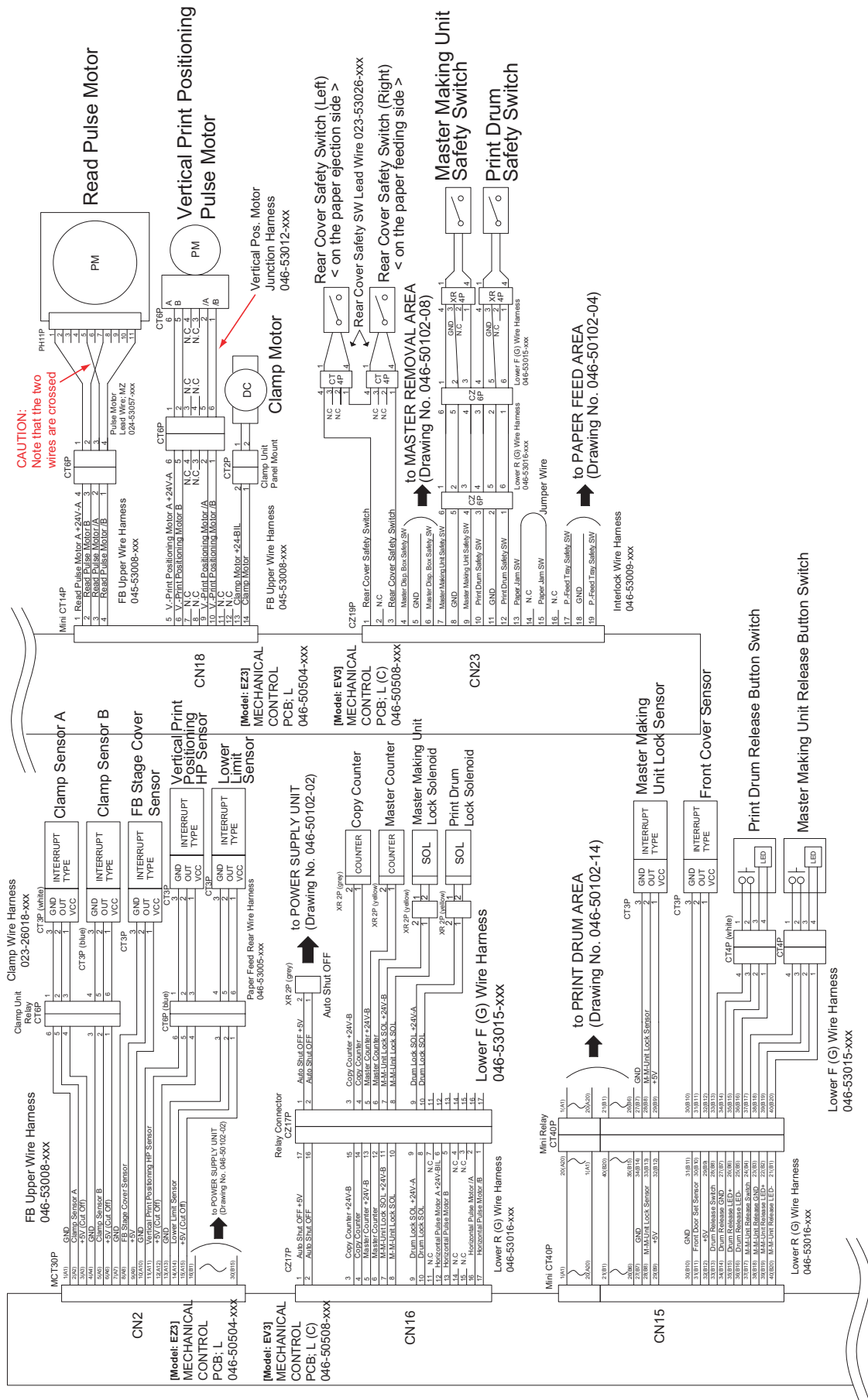


PAPER RECEIVING AREA (Drawing No. 046-50102-06)



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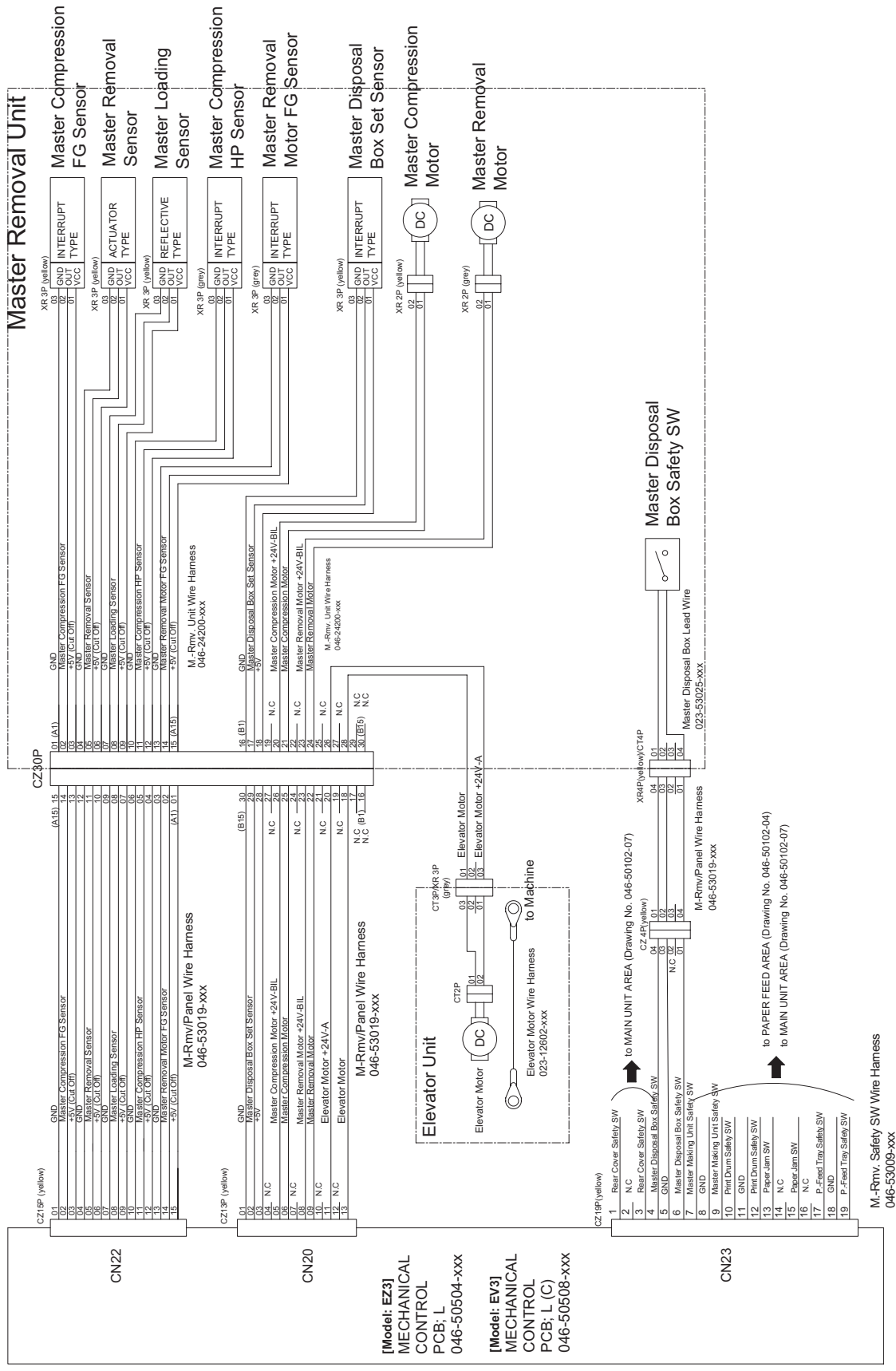
MAIN UNIT AREA (Drawing No. 046-50102-07)



7) Master Removal Area [EZ3 & EV3]

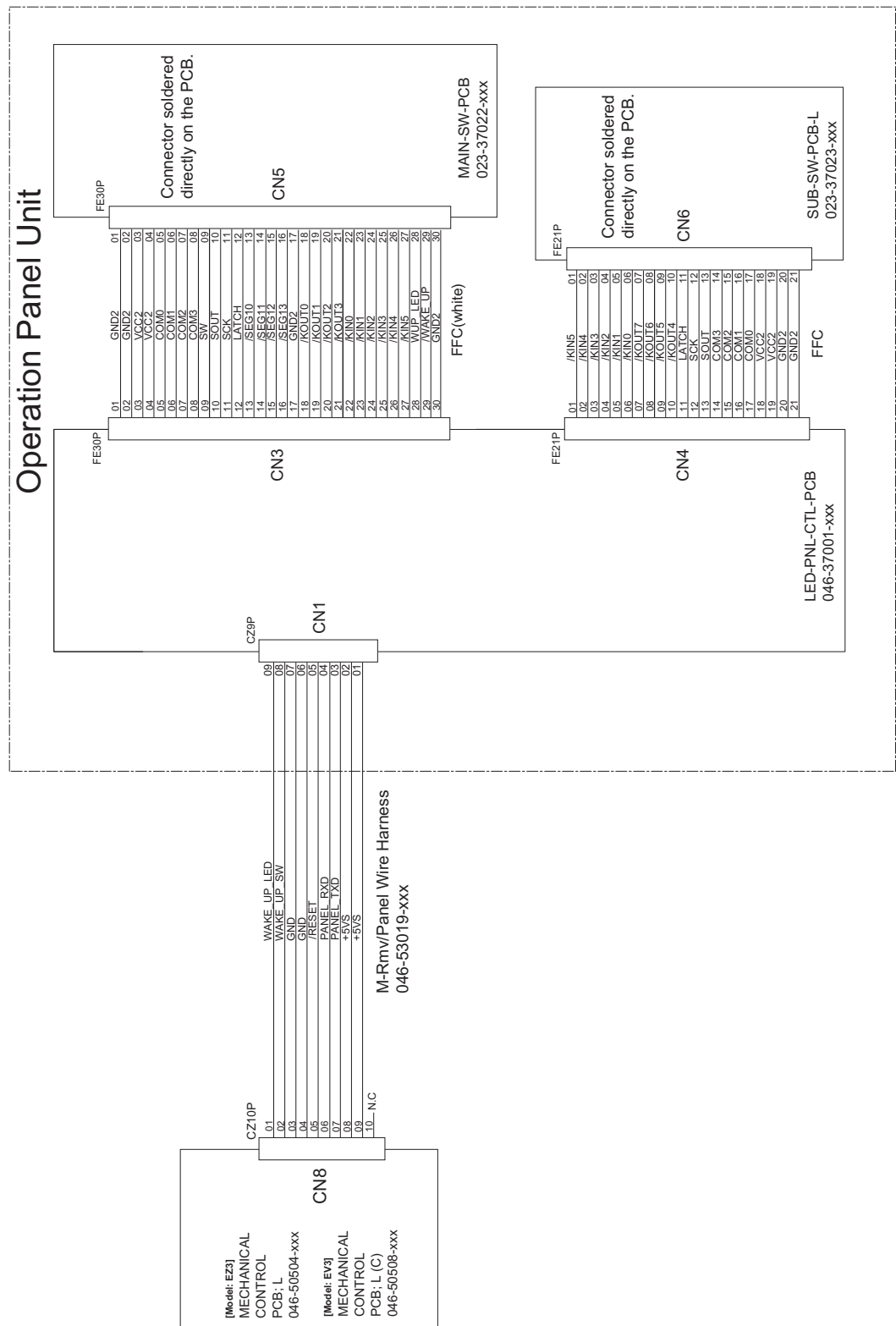
< Model EZ3 / EV3 >

MASTER REMOVAL AREA (Drawing No. 046-50102-08)



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OPERATION PANEL AREA (Drawing No. 046-50102-09)



9) Options-1 [EZ3 & EV3]

< Model EZ3 / EV3 >

OPTIONS (Drawing No. 046-50102-11)



10) Options-2 [EZ3 & EV3]

OPTIONS (Drawing No. 046-50102-12)



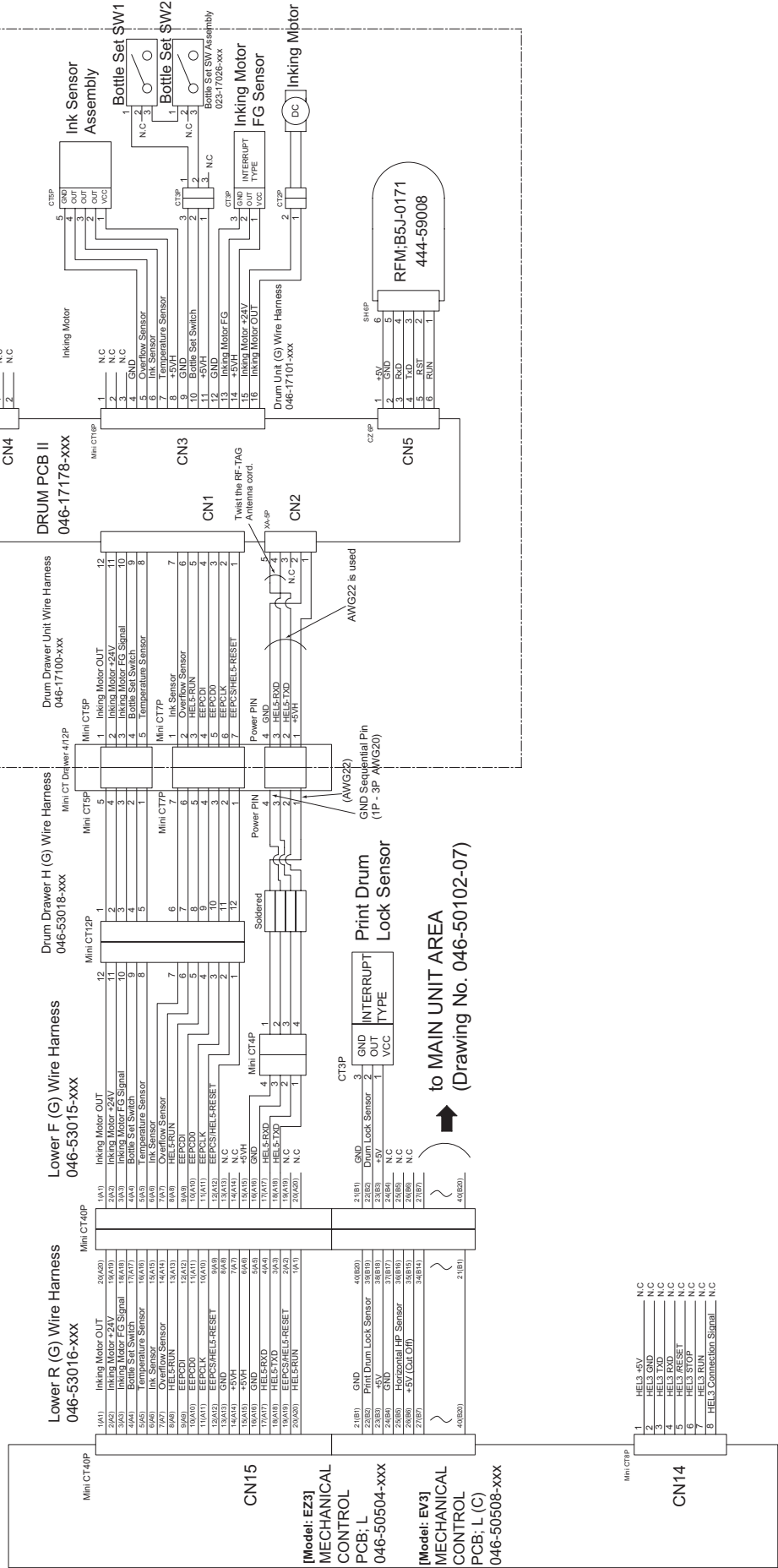
MASTER MAKING AREA (Drawing No. 046-50102-13)



12) Master Making Area [EZ3 & EV3]

< Model EZ3 / EV3 >

PRINT DRUM AREA (Drawing No. 046-50102-14)

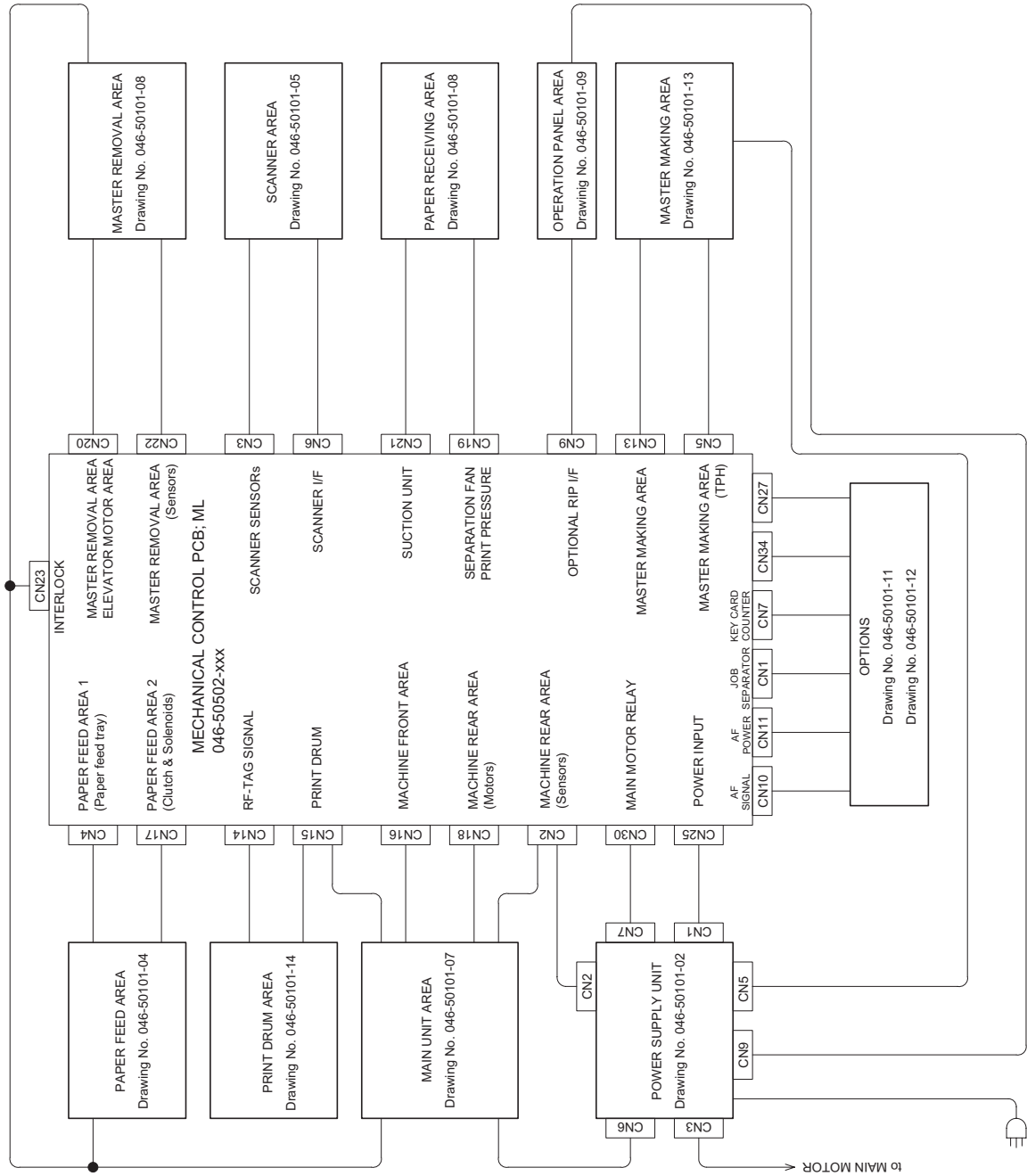


3. EZ5 & EV5

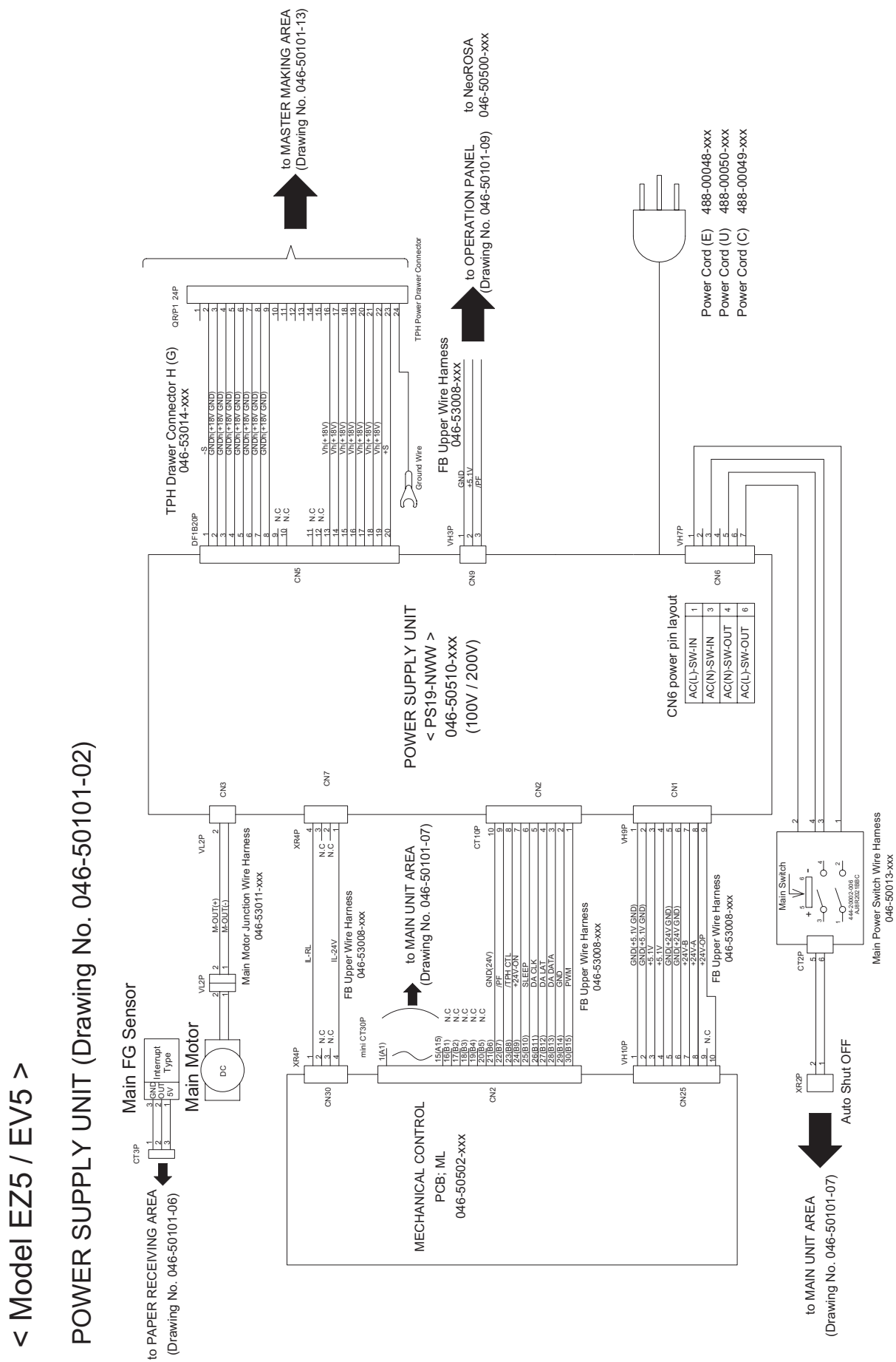
1) Connection between PCBs [EZ5 & EV5]

< Model EZ5 / EV5 >

Connection between PCBs (Drawing No. 046-50101-01)



2) Power Supply Unit [EZ5 & EV5]

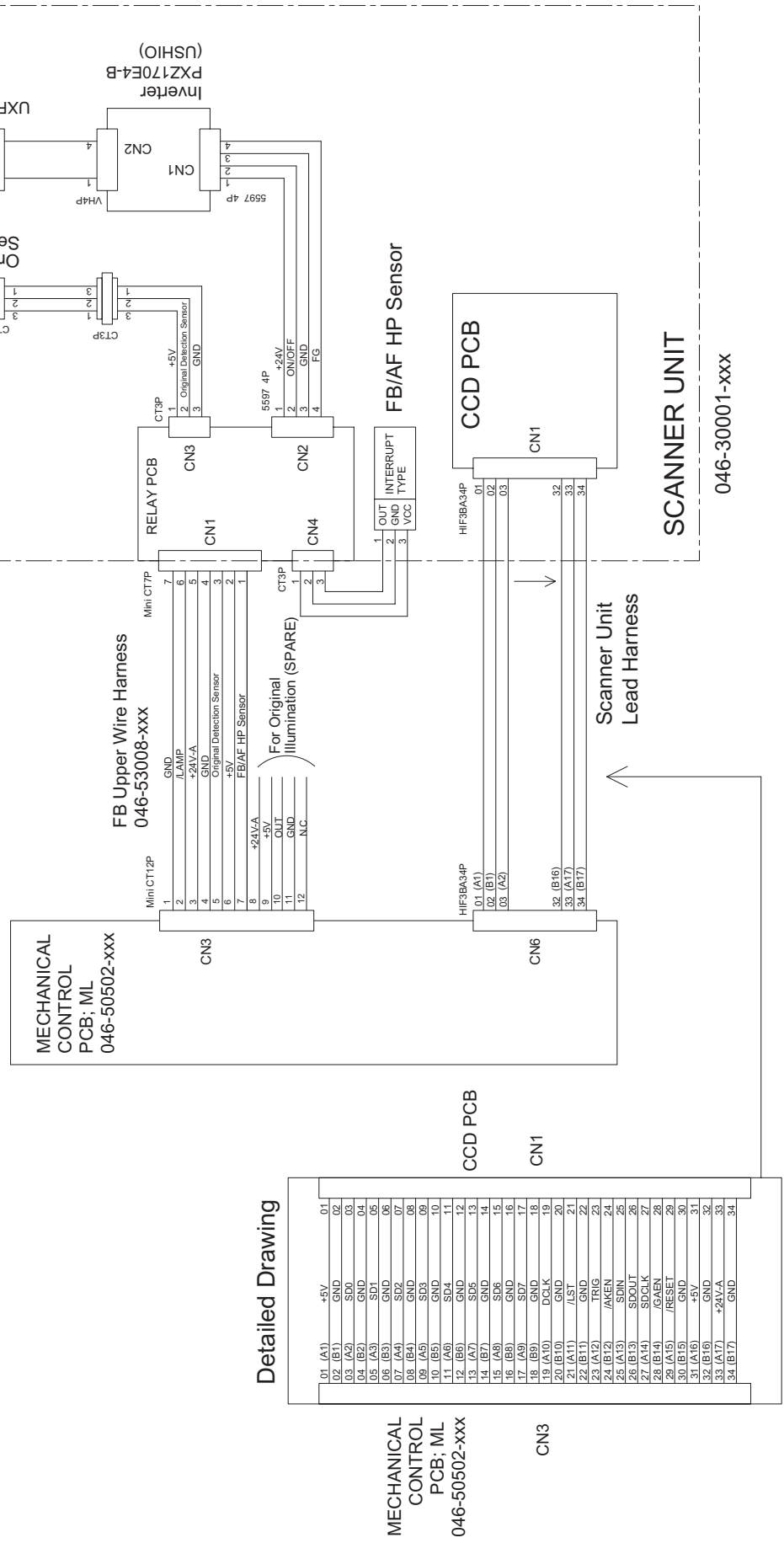


4) Scanner Area [EZ5 & EV5]

< Model EZ5 / EV5 >

SCANNER AREA (Drawing No. 046-50101-05)

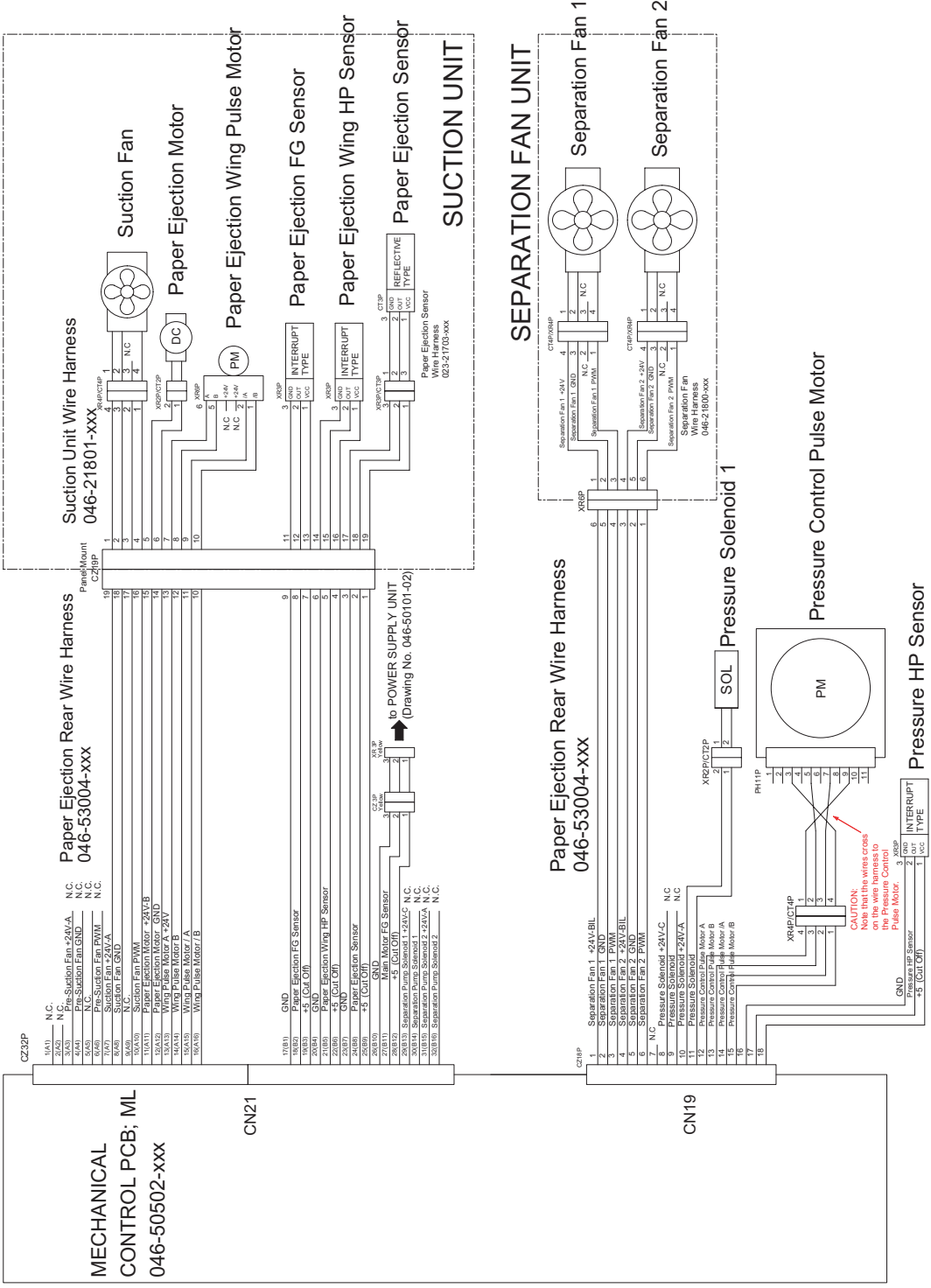
NOTE:
FB Stage Cover Sensor and FB Read Pulse Motor is
on the MAIN UNIT AREA Drawing No. 046-50101-07



5) Paper Receiving Area [EZ5 & EV5]

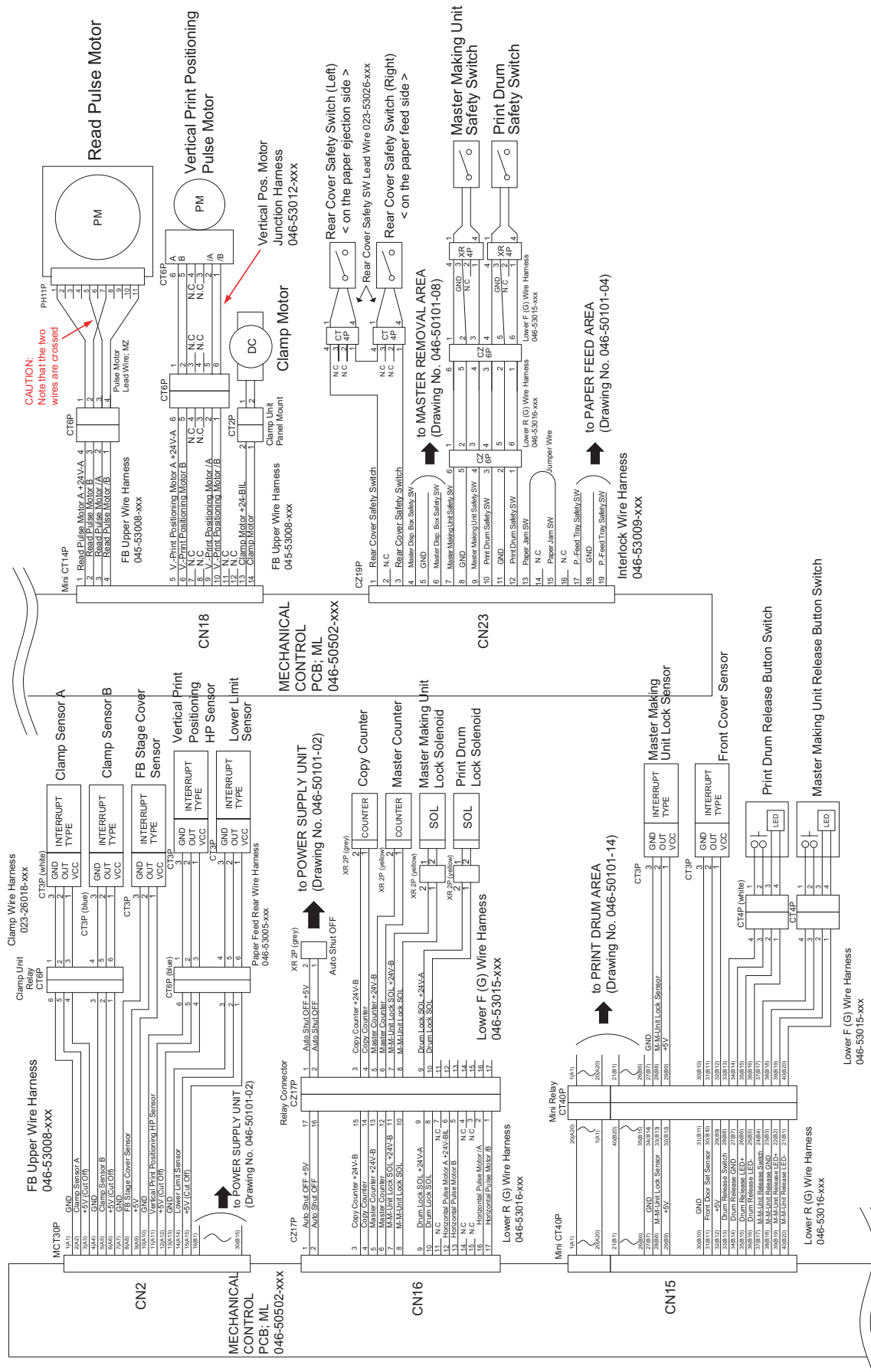
< Model EZ5 / EV5 >

PAPER RECEIVING AREA (Drawing No. 046-50101-06)



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MAIN UNIT AREA (Drawing No. 046-50101-07)

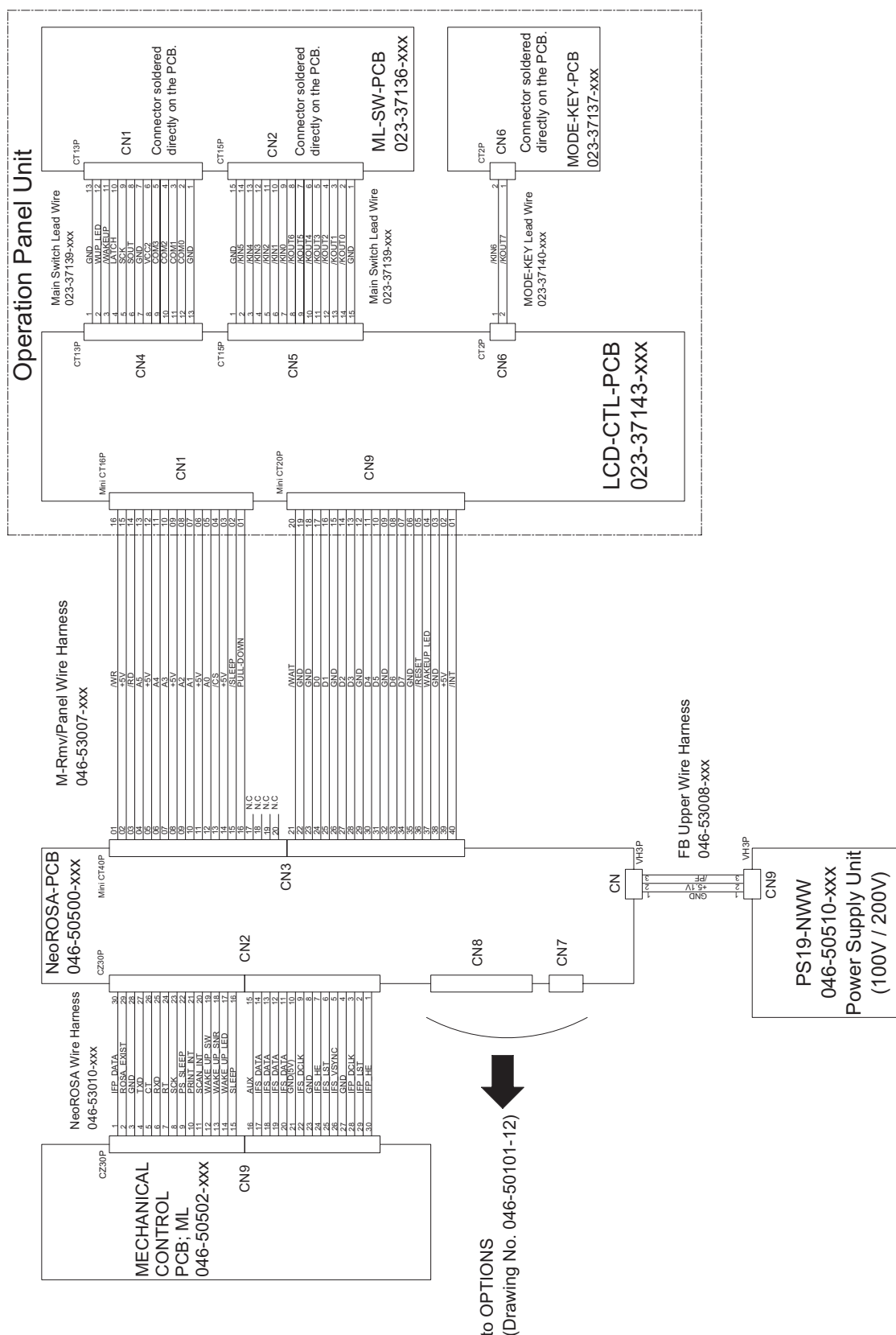


MASTER REMOVAL AREA (Drawing No. 046-50101-08)



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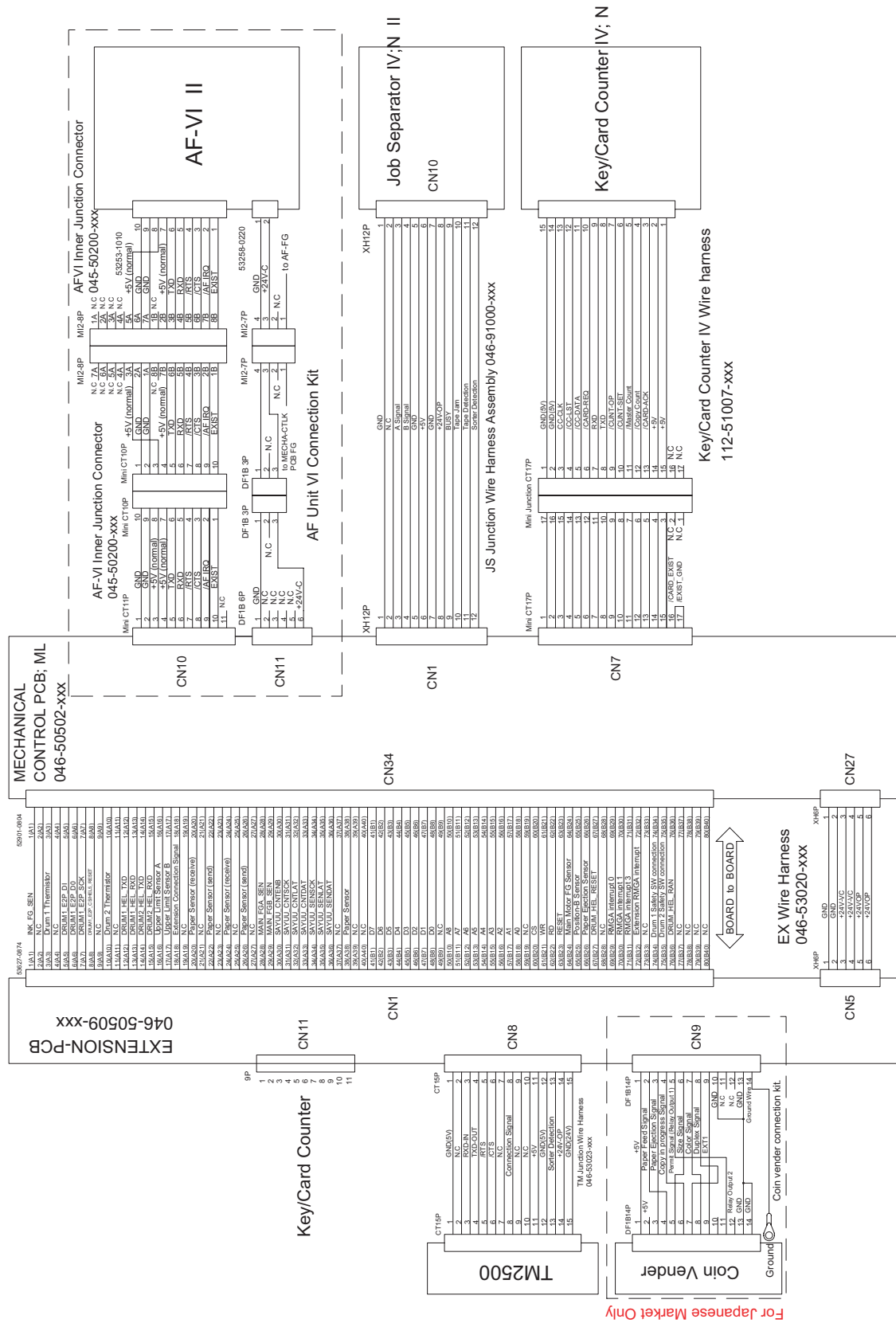
OPERATION PANEL AREA (Drawing No. 046-50101-09)



< Model EZ5 / EV5 >

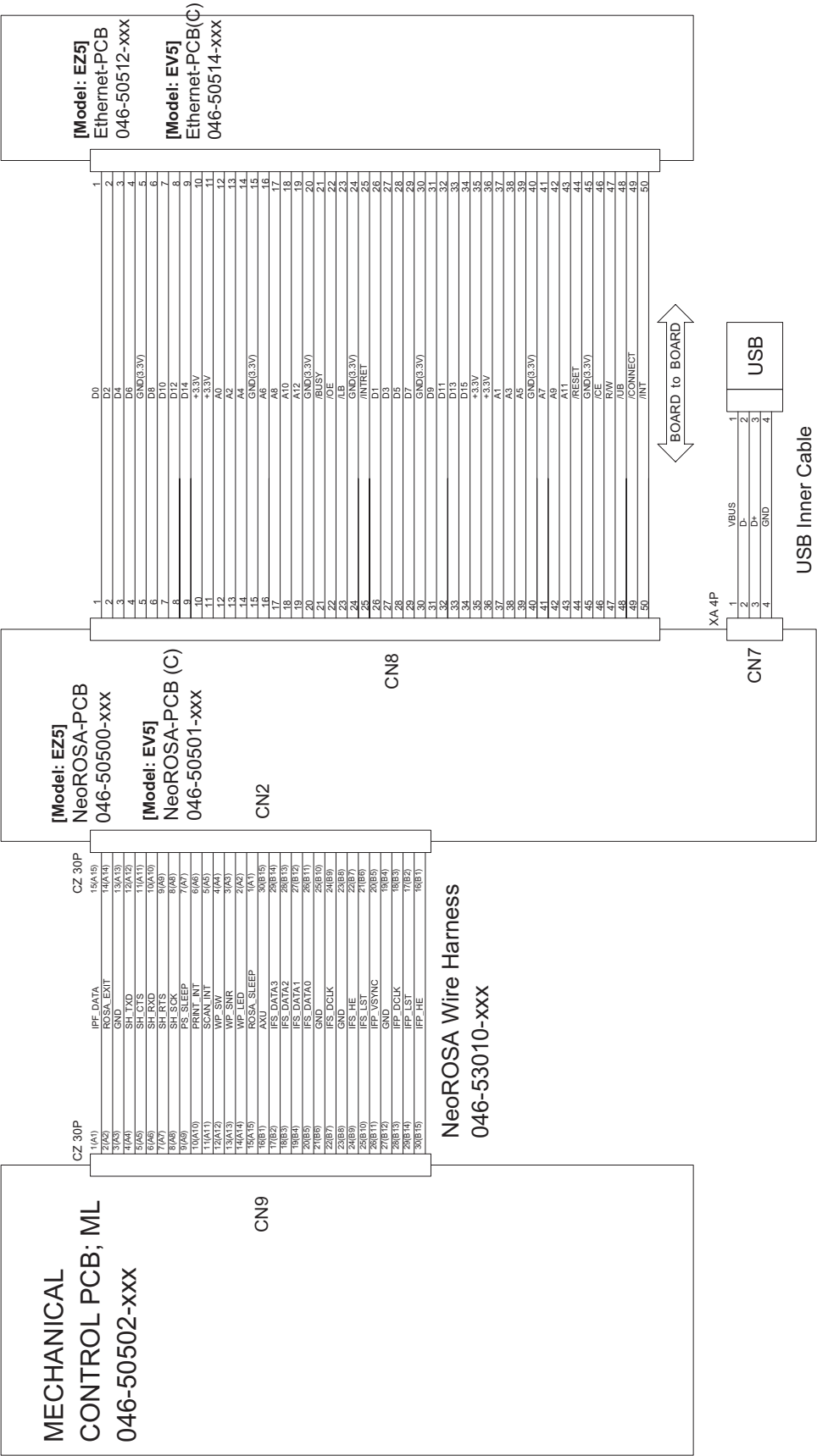
9) Options-1 [EZ5 & EV5]

OPTIONS (Drawing No. 046-50101-11)



10) Options-2 [EZ5 & EV5]

< Model EZ5 / EV5 >
OPTIONS (Drawing No. 046-50101-12)



CAUTION:
USB Inner Cable 046-53013-xxx is not used on machines to China.

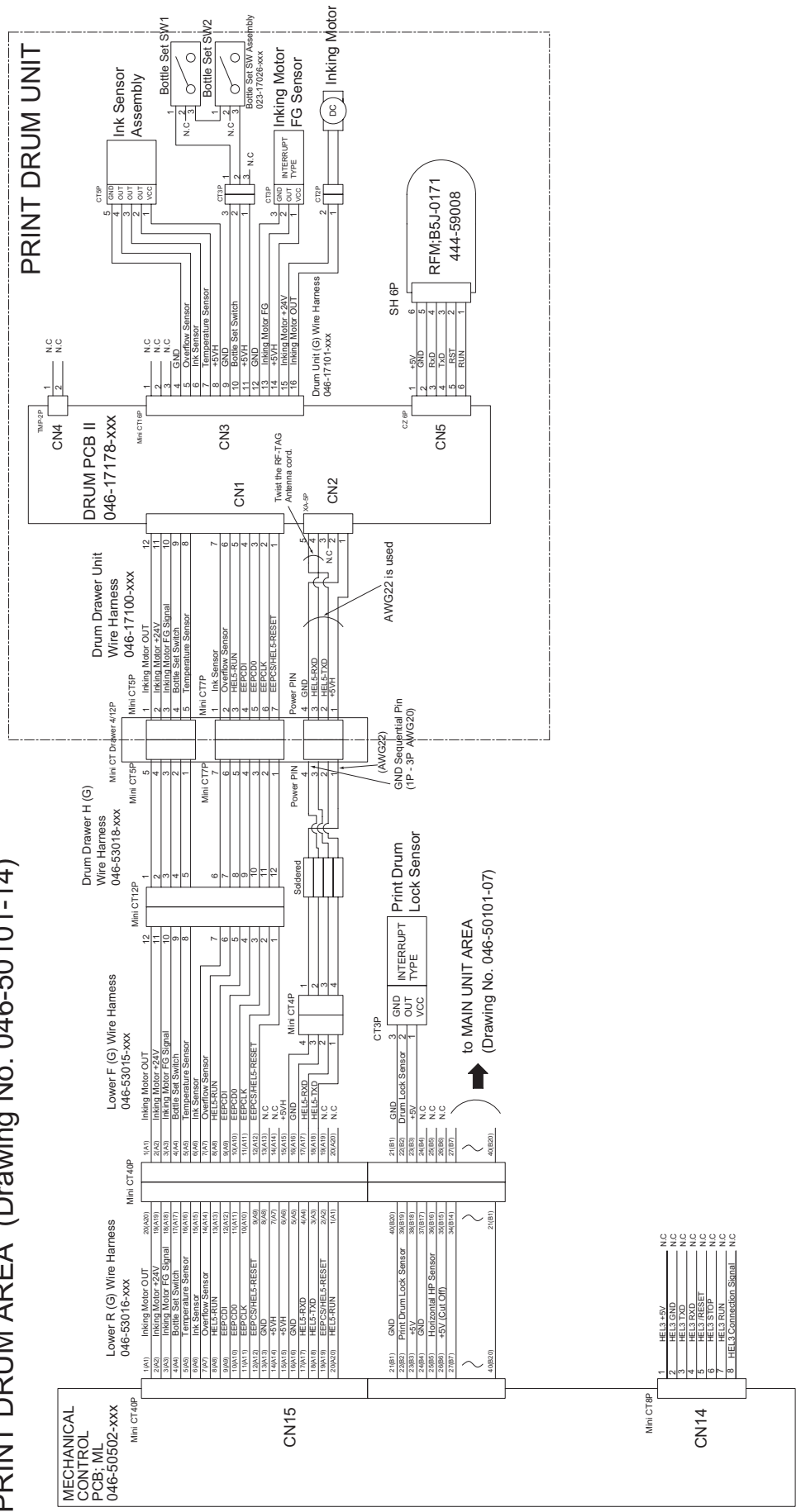
MASTER MAKING AREA (Drawing No. 046-50101-13)



12) Master Making Area [EZ5 & EV5]

< Model EZ5 / EV5 >

PRINT DRUM AREA (Drawing No. 046-50101-14)

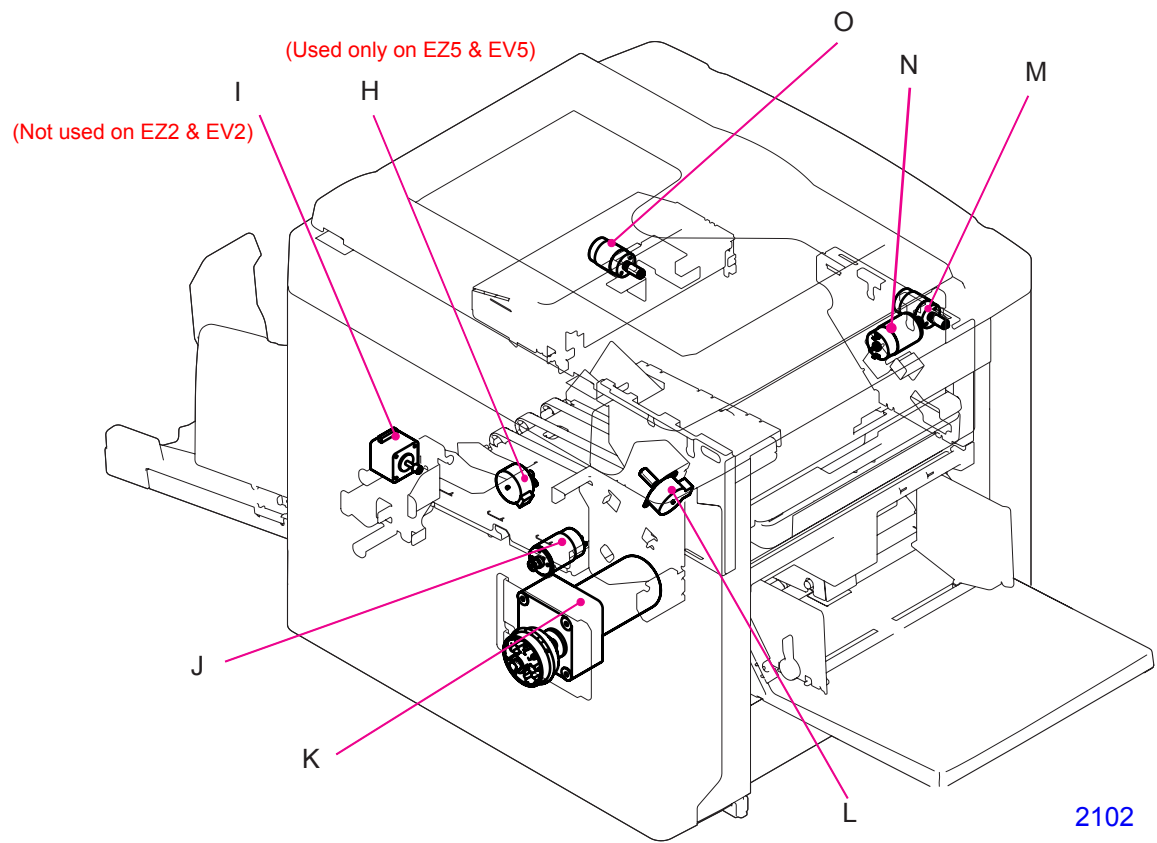
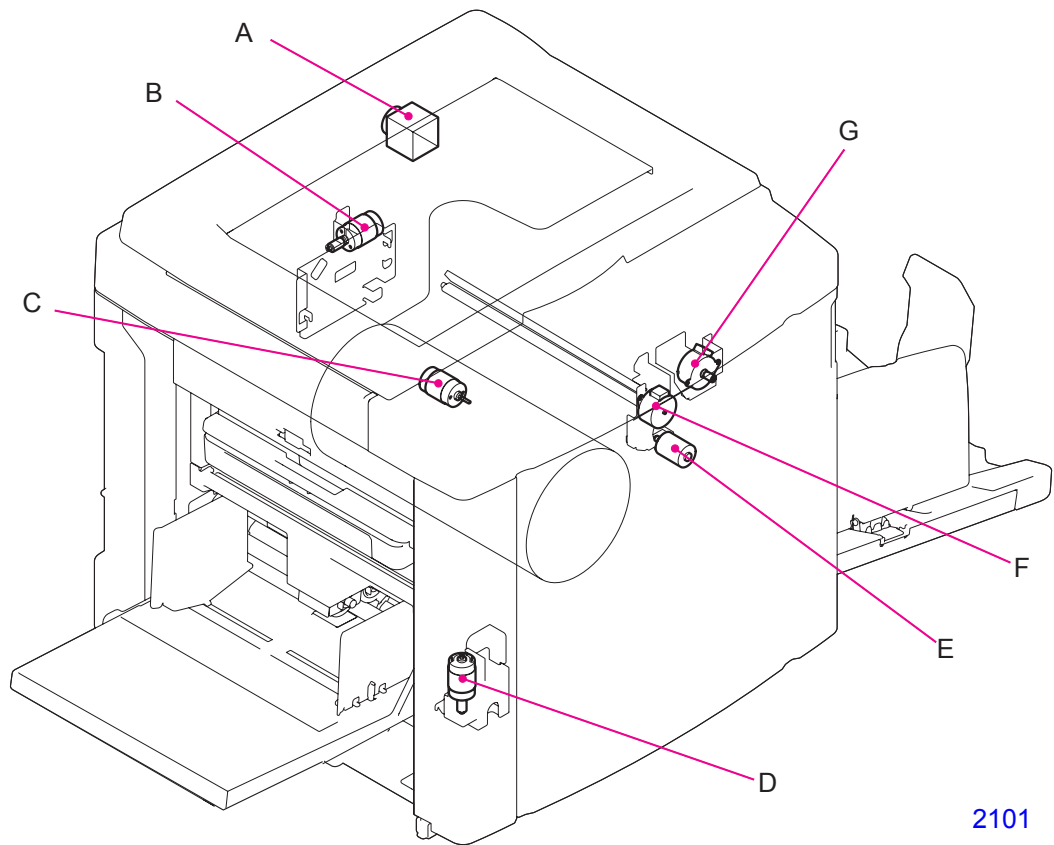


CHAPTER 21: ELECTRICAL COMPONENTS

Contents

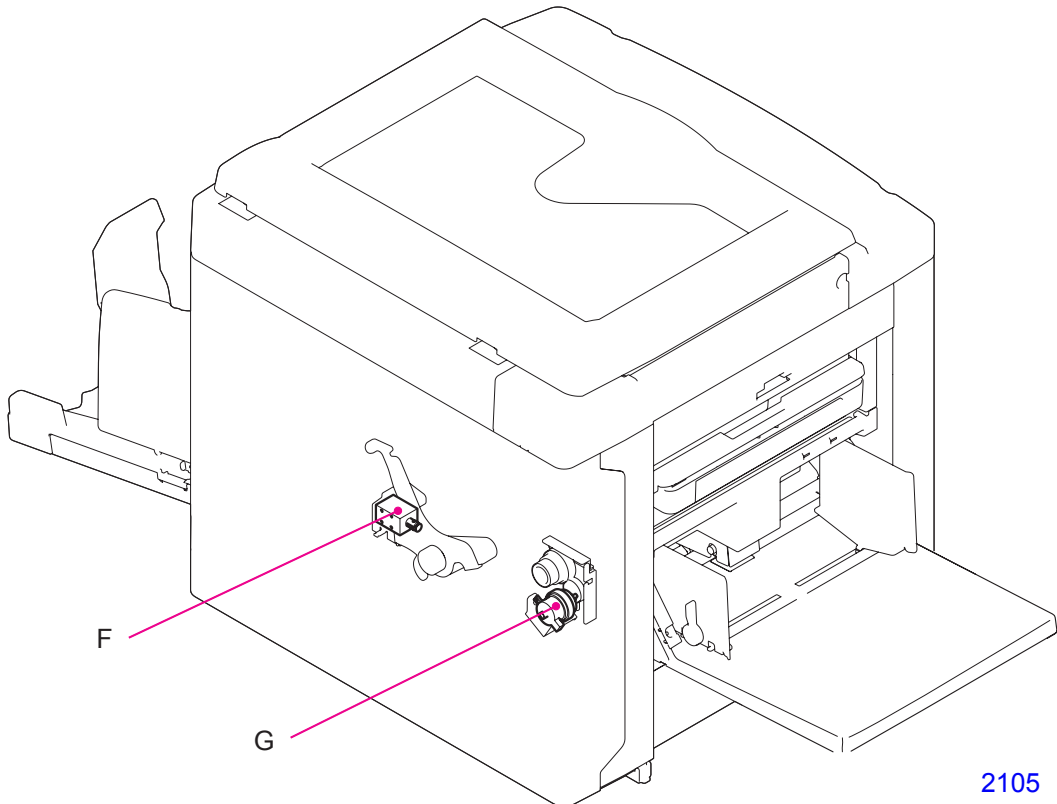
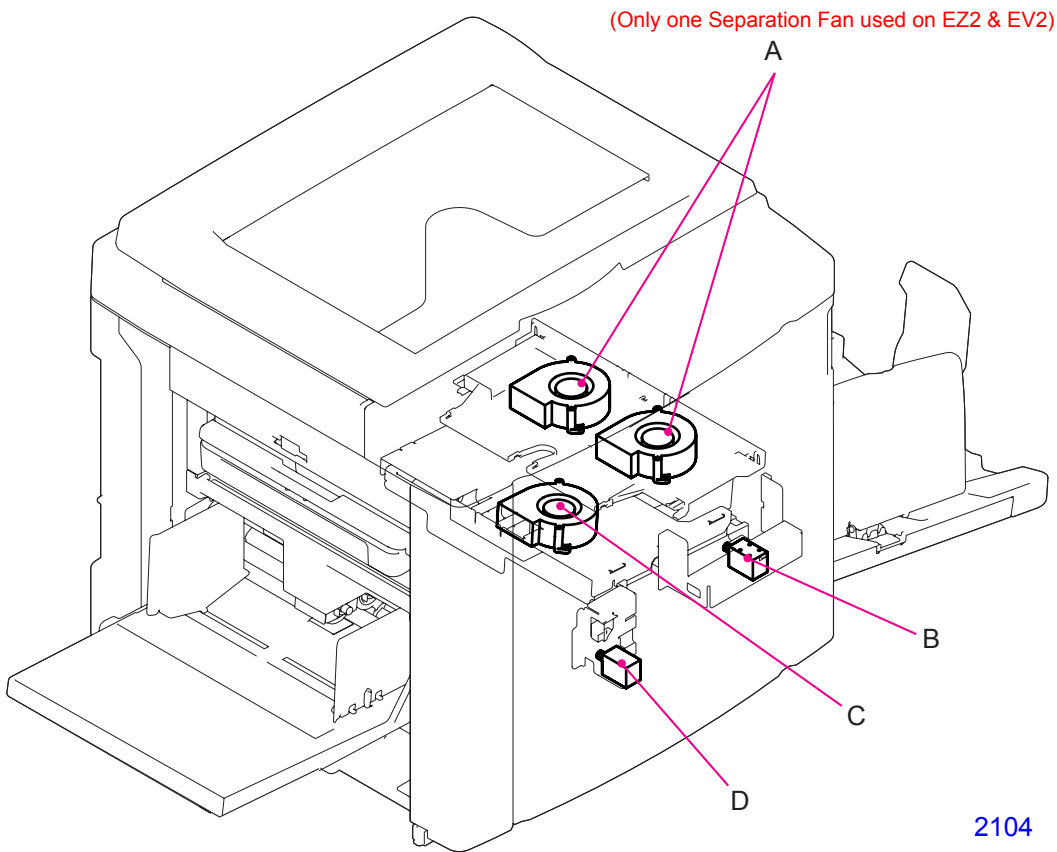
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3. Photoelectric Sensors.....	6
4. Other Sensors, Switches, Volume Dial.....	8
5. AF (auto document feeder) - Option	10

1. Motors



Item	Part Name	Function	Test Mode No.
A	Read pulse motor	Drives the Lamp carriage and Mirror carriage.	0284
B	Clamp motor	Drives the Clamp opening cam and Position-A compensation plate.	0863 0864
C	Inking motor	Drives the Ink pump.	-----
D	Elevator motor	Elevates the Paper feed tray up and down.	0682
E	Cutter motor	Activates the cutter unit.	0480
F	Load pulse motor	Drives the Load roller and Master loading roller.	0464
G	Write pulse motor	Drives the Write roller.	0462 0463
H	Paper ejection wing pulse motor (Used only on EZ5 & EV5)	Elevates the Paper ejecton wing up and down.	0666 0667
I	Pressure control pulse motor (Not used on EZ2 & EV2)	Changes the printing pressure.	0905
J	Paper ejection motor	Drives the Suction belt.	0660
K	Main motor	Drives the Main drive.	0861
L	Vertical print positioning pulse motor	Changes the Vertical print position.	0901
M	Compression motor	Drives the Master compression plate.	0493
N	Master removal motor	Drives the Master removal rollers.	0470
O	Thermal pressure motor	Elevates the Thermal Print Head (TPH) up and down.	0460 0461

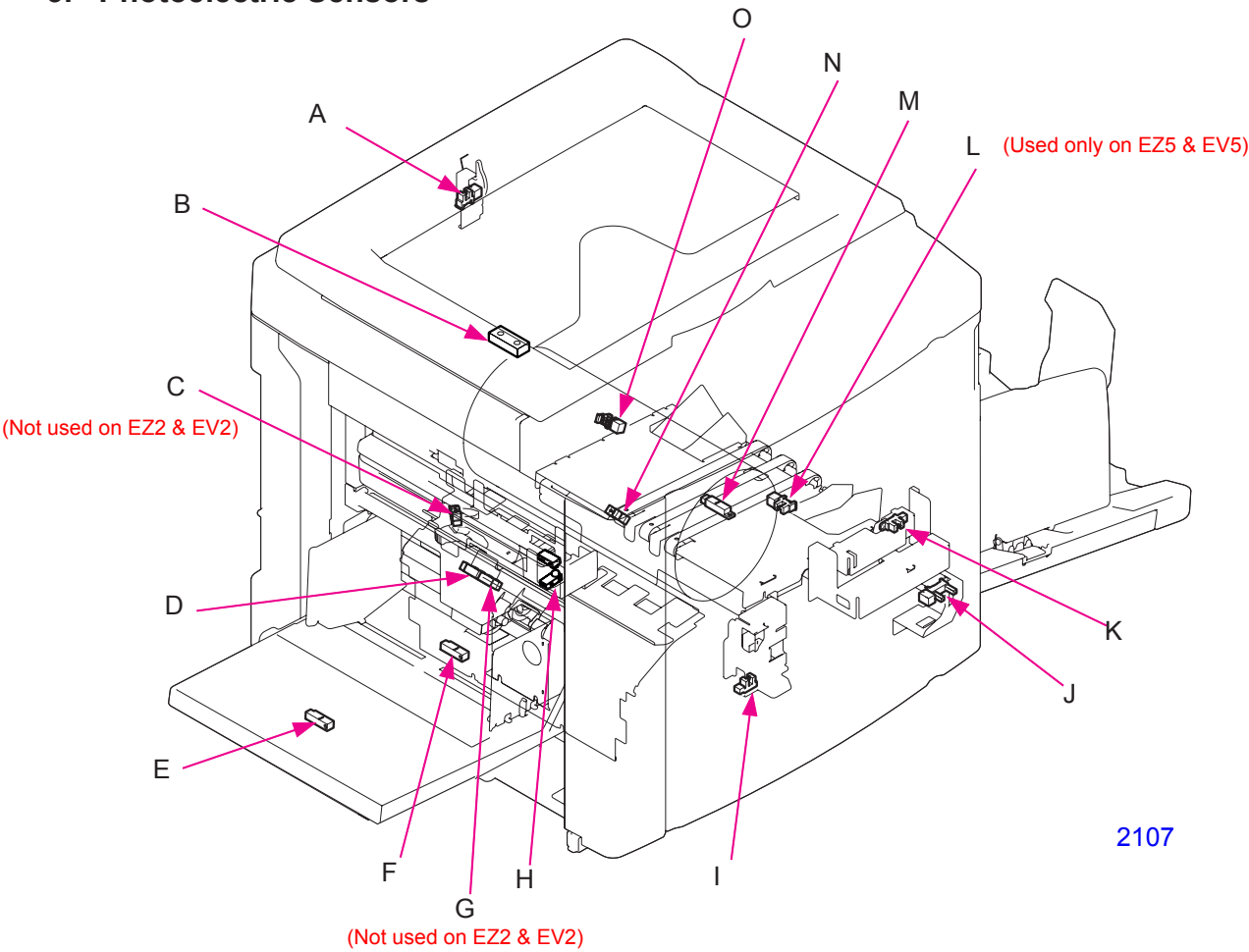
2. Fans, Solenoids, Solenoid Clutches



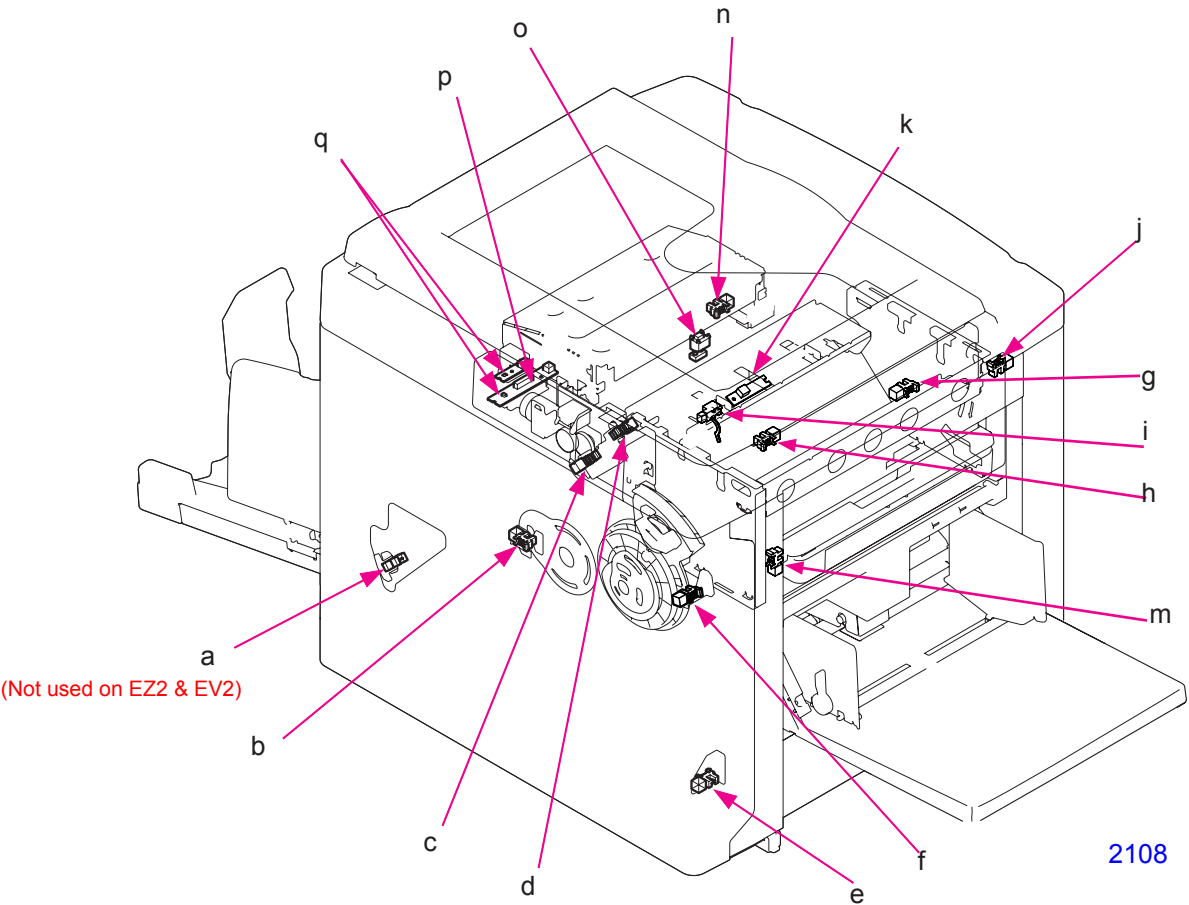
Item	Part Name	Function	Test Mode No.
A	Separation fan (Only one FAN used on EZ2 & EV2)	Assists separation of the paper from the Print drum.	0662
B	Master making unit lock solenoid	Locks or unlocks the Master making unit.	0488
C	Suction fan	Pulls the paper onto the Suction belt.	0661
D	Print drum lock solenoid	Locks or unlocks the Print drum.	0885
F	Pressure solenoid	ON or OFF of the Pressure roller UP and DOWN motion.	0886
G	Paper feed clutch	Transfers the drive to the Scraper and Pickup rollers.	0688

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3. Photoelectric Sensors



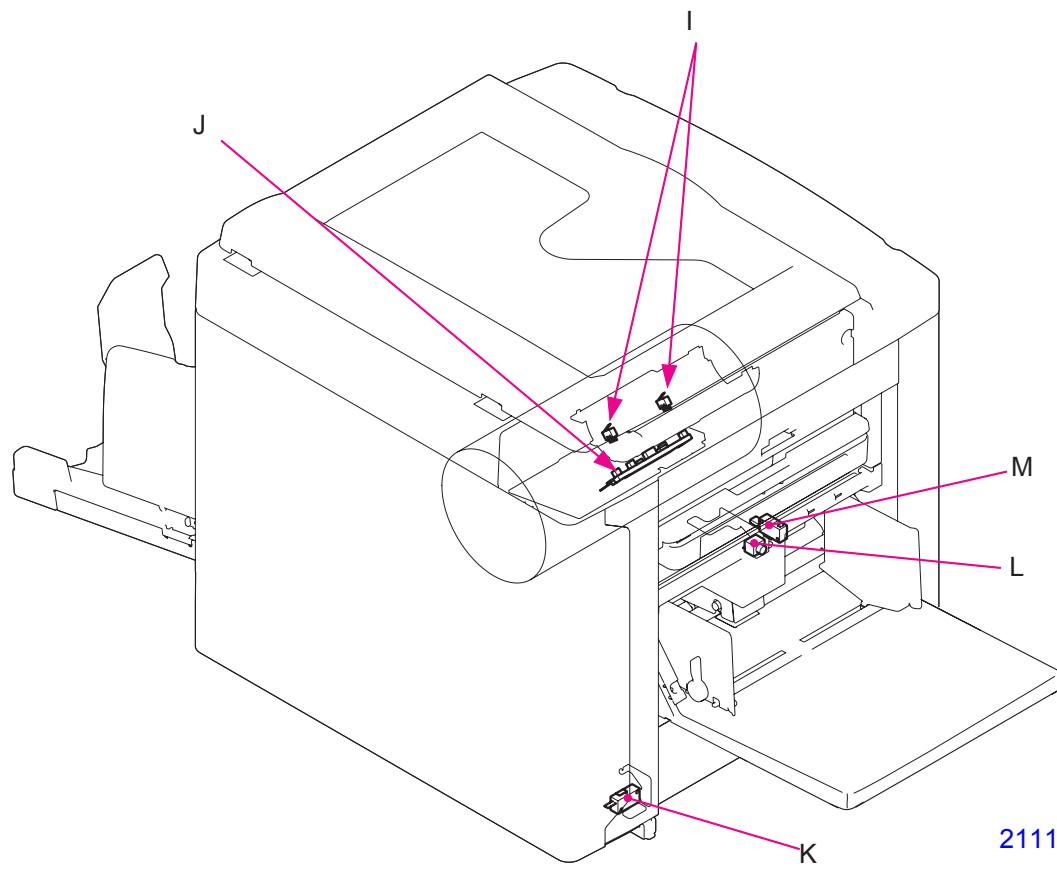
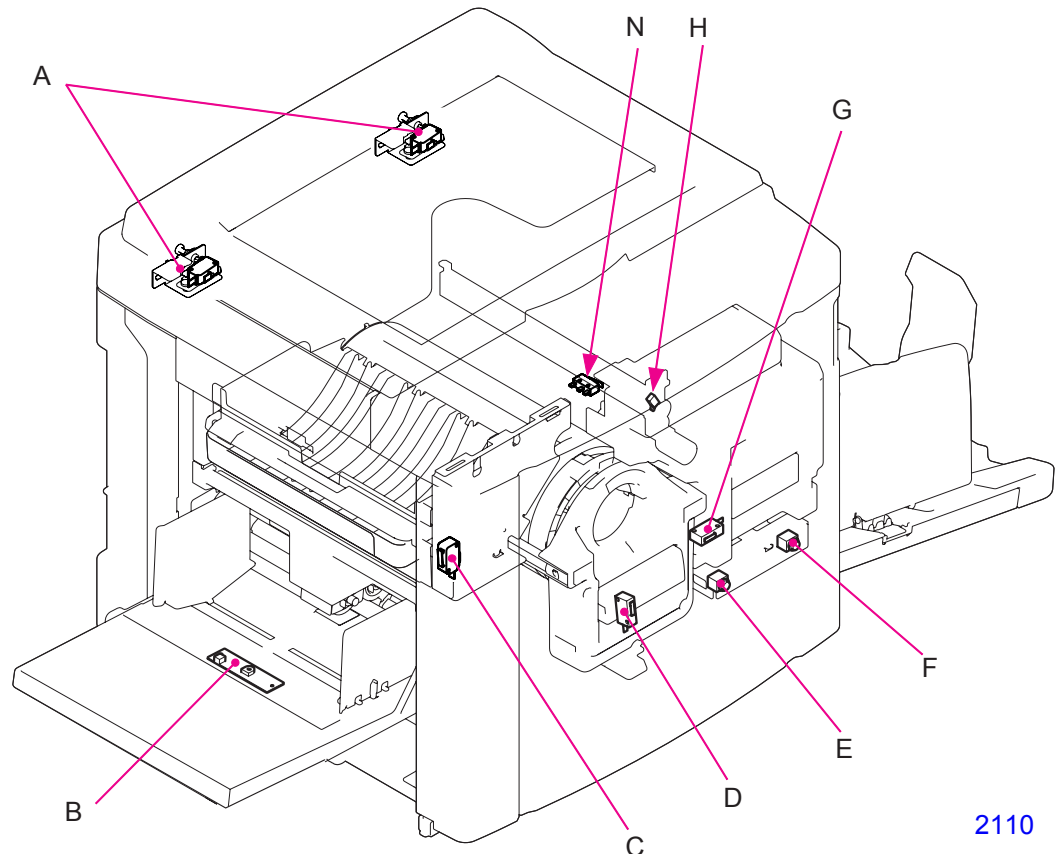
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Item	Part Name	Sensor Type	Function	Test Mode No.
A	Stage cover sensor	Interruptive	Checks the open/close condition of the Stage cover.	0209
B	FB original detection sensor	Reflective	Checks the presence of the original on the Stage glass.	0201
C	Paper feed pressure sensor (Not used on EZ2 & EV2)	Interruptive	Checks the position of the Paper feed pressure lever.	0614
D	Upper limit sensor B	Interruptive	Detects the Paper feed tray upper limit position.	0603
E	Paper size detection sensor	Reflective	Detects the length of the paper on the Paper feed tray.	0601
F	Paper detection sensor	Reflective	Detects the presence of the paper on the Paper feed tray.	0600
G	Upper limit sensor A (Not used on EZ2 & EV2)	Interruptive	Detects the Paper feed tray upper limit position.	0602
H	Paper sensor	Transmittive	Checks the 1st paper feed area paper feed condition.	0605
I	Print drum lock sensor	Interruptive	Checks the Print drum lock condition.	0807
J	Front door set sensor	Interruptive	Checks the Front door open/close condition.	0817
K	Master making unit lock sensor	Interruptive	Checks the Master-making unit lock condition.	0408
L	Paper ejection wing HP sensor (Used only on EZ5 & EV5)	Interruptive	Detects the home position of the Paper ejection wing.	0618
M	Paper ejection sensor	Reflective	Checks the paper ejection area paper receiving condition.	0606
N	Paper ejection motor FG sensor	Interruptive	Checks the speed of Paper ejection motor.	0612
O	Inking motor FG sensor	Interruptive	Checks the rotation of the Inking motor.	0812
a	Pressure HP sensor (Not used on EZ2 & EV2)	Interruptive	Detects the print pressure home position.	0830
b	Position-B sensor	Interruptive	Detects the machine B-position.	0801
c	Clamp sensor B	Interruptive	Checks the Clamp unit operation.	0804
d	Clamp sensor A	Interruptive	Checks the Clamp unit operation.	0803
e	Lower limit sensor	Interruptive	Detects the Paper feed tray lower limit position.	0604
f	Vertical print positioning HP sensor	Interruptive	Detects the home position of the vertical print position.	0831
g	Master removal motor FG sensor	Interruptive	Checks the speed of Master removal motor.	0426
h	Master compression HP sensor	Interruptive	Detects the home position of the Master compression plate.	0421
i	Master removal sensor	Actuator	Checks the master disposal area master disposal condition.	0420
j	Compression FG sensor	Interruptive	Checks the Master compression plate position and the speed of the Master compression motor.	0425
k	Master loading sensor	Reflective	Looks for master on the drum.	0806
m	Master disposal box set sensor	Interruptive	Checks for the set condition of Master disposal box.	0424
n	Thermal pressure sensor	Interruptive	Checks the up/down position of the TPH.	0406
o	Master positioning sensor	Reflective (prism)	Detects the master waiting position, and checks the master cut status.	0400
p	Master detection sensor	Reflective	Looks for master set in the Master-making unit.	0401
q	Master end sensor	Transmittive	Detects the end of the master material.	0402

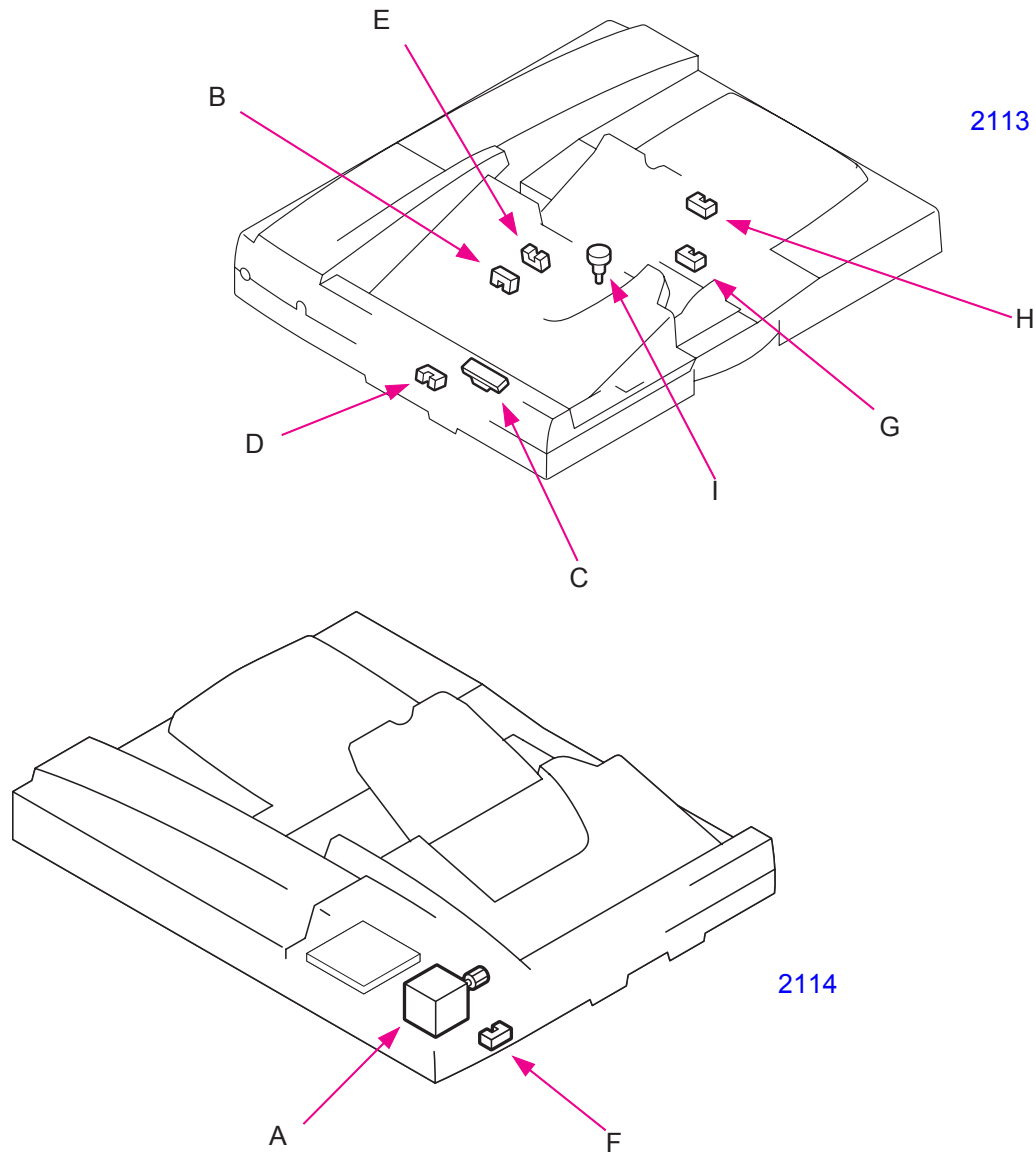
4. Other Sensors, Switches, Volume Dial



Item	Part Name	Function	Test Mode No.
A	Rear cover safety switch	Checks the presence of the Rear cover.	0005
B	Paper width potentiometer	Detects the width of the paper on the Paper feed tray.	-----
C	Master disposal box safety switch	Detects the presence of the Master disposal box. Acts as interlock safety switch.	0423
D	Drum safety SW	Detects the presence of the Print drum. Acts as interlock safety switch.	0820
E	Print drum release button	Releases the lock on the Print drum.	0818
F	Master making unit release button	Releases the lock on the Master making unit.	0410
G	Master making unit safety switch	Detects the presence of the Master making unit. Acts as interlock safety switch.	0409
H	Cutter HP switch	Detects the home position of the Cutter blade.	0403
I	Ink bottle set switch	Detects the presence of the Ink bottle.	0811
J	Ink sensor Overflow sensor	Detects the bead of the Ink. Detects the Ink overflow.	0809 0810
K	Paper feed tray lower safety switch	Immediate stop of the Elevator motor.	0608
L	Paper feed tray button	Elevates the Paper feed tray up or down by pressing this button.	0609
M	Paper feed tray upper safety switch	Immediate stop of the Elevator motor.	0607
N	Master making unit upper cover safety switch	Set detection of the Master making unit upper cover.	0407

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5. AF (auto document feeder) - Option



Item	Part Name	Function	Test Mode No.
A	AF read pulse motor	Drives the original transfer rollers on the AF Unit.	3030
B	Original registration sensor	Detects the original feeding and transporting.	3001
C	Original IN sensor		3002
D	Original OUT sensor	Detects the original ejection.	3003
E	AF original detection sensor	Detects if the original is on the AF feed table.	3004
F	AF cover set sensor	Detects if the AF Unit is opened or closed.	3005
G	AF original size sensor 1	Detects the original length.	3006
H	AF original size sensor 2	Detects the original length.	3007
I	AF width potentiometer	Detects the original size (width).	-----

APPENDIX

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RISO i Quality System

With the RF-tag on the master roll and ink bottle, the machine is designed to give best performance for each operating condition in real time.

Listed below are the major performance feature of the RISO i Quality System.

1) Printing Density Control

Depending on the condition of the machine, the printing speed is controlled before the selected printing speed is achieved.

This is to produce solid image prints with less wasted printing papers.

2) Drum Idling Control

Depending on the working condition, the condition of the ink in the Drum differs. To give best print outs, the number of Drum rotation during the Drum idling action is changed to produce solid image prints with less wasted printing papers.

3) Thermal Power Control on TPH

The TPH thermal power is controlled to match with each master roll and its condition.

4) Elongation and Shrinkage Control in Master Making

Depending on the amount of mater material remaining on the master roll, the speed of the Write pulse motor is controlled to reduce the image elongation and shrinkage in master making.

5) Ink and Master Remaining Amount Display is Controlled

More precise information is given on the operation panel of the machine on the remaining amount of the ink and master to the operator.

6) Inkless Timer Control

Depending on the amount of ink left in the ink bottle, the inkless timer is controlled before displaying the ink bottle replacement panel message to reduce the false replacement message display. The same control is used also to prevent pumping in excess air into the Drum when the ink amount left in the ink bottle is close to empty.

7) Additional Information on the RISO i Quality System

In the case when adequate information is not achieved from the RF-tag, the machine panel message indicates [H] message.

If these [H] displays are indicated, input the necessary parameter setting to continue the printing or master-making operation.

Refer to Chapter-17 [Panel Message] for a brief detail on the subject, or refer to the Users Guide for finer detail.

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